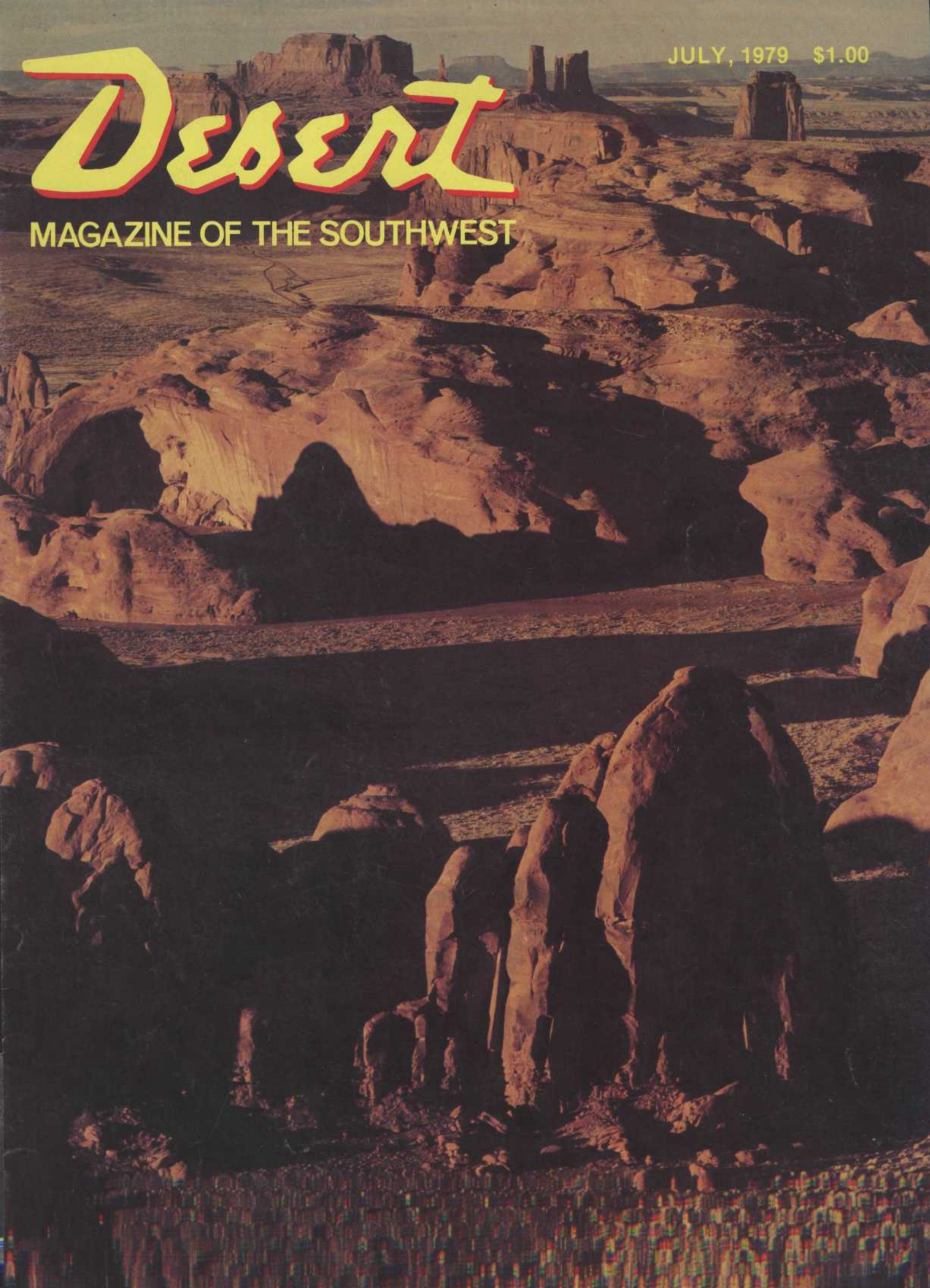


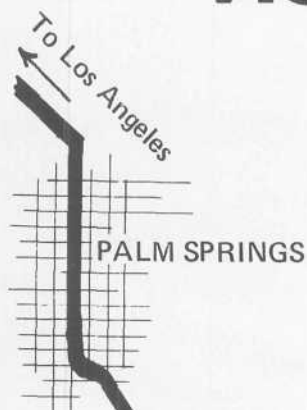
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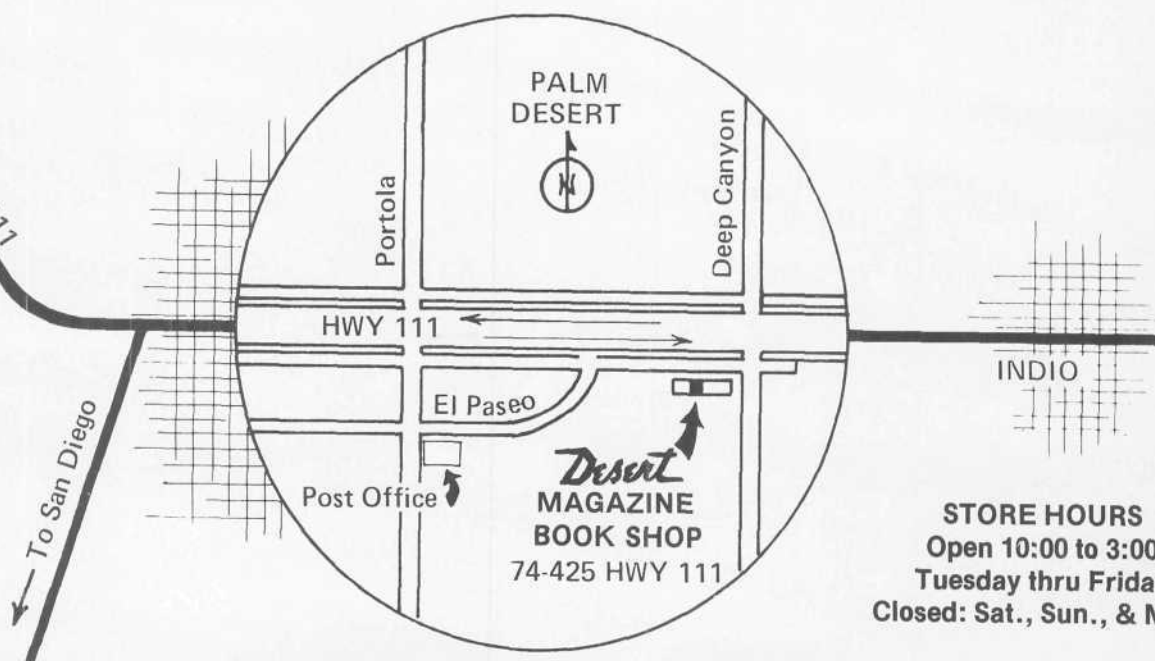
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(USPS 154-940)

Volume 42, Number 7

JULY 1979

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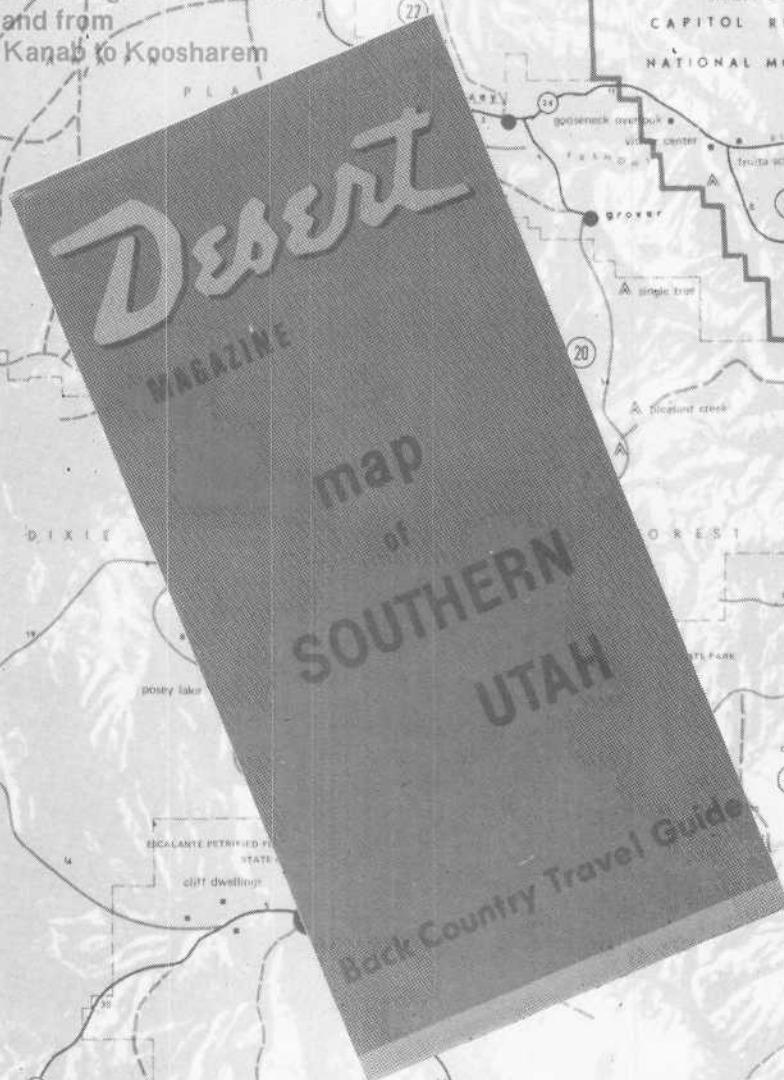
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William Kuyper

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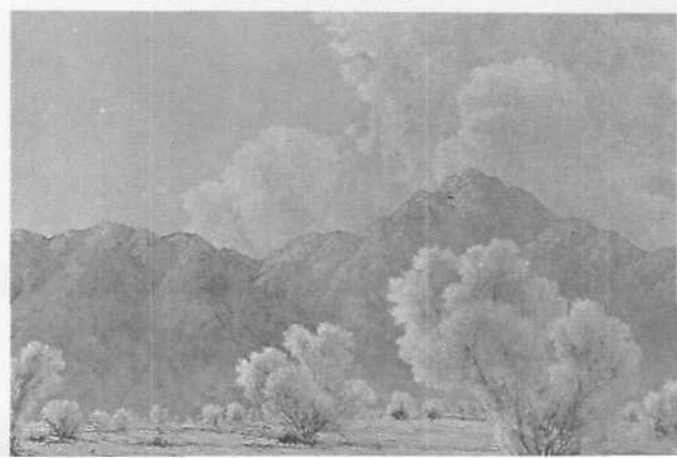


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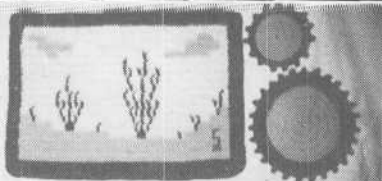
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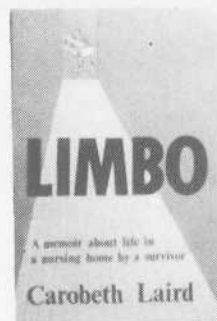
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LIMBO

A memoir about life in a nursing home by a survivor
By Carobeth Laird

Desert Magazine readers who have met Carobeth Laird through her earlier books, *Encounter with an Angry God* and *The Chemehuevis*, will be delighted to hear that her third work, *Limbo*, has finally been published.

Limbo is a powerful and evocative memoir of Mrs. Laird's experience in a Phoenix, Arizona, nursing home during 1974, when she was 79 years old. The action begins on the Chemehuevi Indian Reservation in Lake Havasu county, progresses to Lake Havasu City, to the Indian Hospital in Parker, Arizona, on the Colorado River Reservation, and fatefully on to Phoenix.

It is but one of Carobeth Laird's amazing gifts that she could take this experience of helplessness and despair, the nadir of her existence, and turn it into fascinating prose. It is witness to her incredible tenacity that she was able to complete the work in her 81st year during a time of near-fatal illness and repeated hospitalization.

Mrs. Laird brings to *Limbo* her talent for black humor, her compassion for those suffocated by circumstance and the courage to reveal herself in such intimate terms that the reader is trapped with her in *Limbo*.

Already, *Limbo* is being hailed by those concerned professionally with the care of the aged as a landmark work which could bring about significant change in the nursing home scene.

When Mrs. Laird's *Encounter with an Angry God* was published by Malki Museum Press in 1975, journalist Tom Wolfe wrote: "Never before have I heard of an exiting new literary talent bursting forth at the age of 80. But here, I am convinced, we have one."

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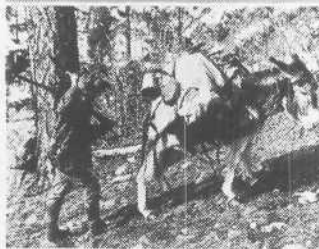
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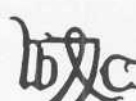
Like much of Western history, Telluride's melodramatic character emerges from the exaggerated scale of people and events that made up its day. Here were men blasting a railroad out of solid rock, Big Billy the kindhearted madam, a world's first in power generation, a strike that angered the nation, and a daring bank robbery by a kid named Butch Cassidy and a group called the Wild Bunch. Telluride has not become a museum. Telluride today is very much alive, and as fine a living reminder of the Old West as one can find.



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With *The Chemehuevis* and now with *Limbo*, Mrs. Laird has confirmed this view. Now approaching her 84th year, Mrs. Laird is at work on two more writing projects: one, a massive scholarly work on Chemehuevi mythology, and the other, a two-volume memoir. May she write forever.

Paperback, 178 pages, with an epilogue by Anne Buffington-Jennings, \$5.95.



ELECTRONIC PROSPECTING
with the VLF/TR
Metal/Mineral Detector
By Charles Garrett,
Bob Grant and Roy Lagal

An easy-to-understand primer on the development and use of electronic so-called treasure and lode detectors by a trio of authors including two of the best-known pioneers in the field, Garrett and Lagal.

This little paperback is more than just a "how-to" guide connected with detectors. It extends your basic knowledge: how to find gold deposits, how to recover the valuable lode through the gravity panning method as well as the more sophisticated electronic methods developed in recent years.

Chapters are devoted to each step of

the process, including "How to High Grade a Mine," which turns out to be a set of valuable tips on recovering forgotten ore left many years ago when commercial operations ceased in many abandoned mines. High grading to some of us means something entirely different and highly illegal, but the authors had good intentions and assure good results, all legal and sometimes very exciting! A word of caution, of course, be very careful entering and wandering around in old mines. They are dangerous!

The authors also include a valuable reading list of other helpful and accurate publications. Equally valuable is an appendix listing several additional sources of official reports, maps and surveys conducted by several state and federal agencies in the western states, as well as reputable colleges and universities.

One thing readily agreed by all the experts in the field, gold and treasure detecting is not only a profitable and worthwhile hobby (and for man, a vocation as well), but it represents a great way to get outdoors, to enjoy the superb scenery and lonely grandeur that usually accompanies likely exploring sites.

Specific chapter titles include:

"The Lure of Gold," "Where You Can Find Gold," "Various Recovery Methods," "Can Gold Be Found With a Metal Detector?" "The Ground Canceling 'Seeing Eye' Metal Detector as a Tool," "The Plastic Gold Pan: Companion to the Metal Detector," "Low Frequency VLF/TR Identification of Metal vs. Mineral," "Successful Nugget Hunting Techniques," "How to High Grade a Mine," "Field Prospecting," and "The Rockhound and the Metal Detector."

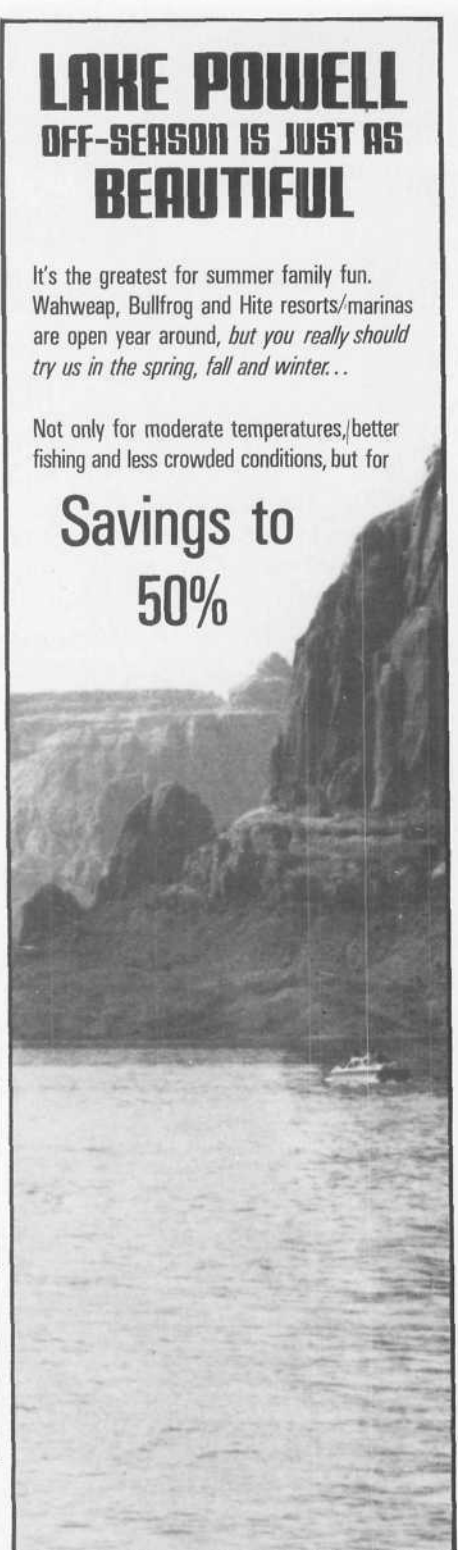
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A California Field Trip

Collecting at

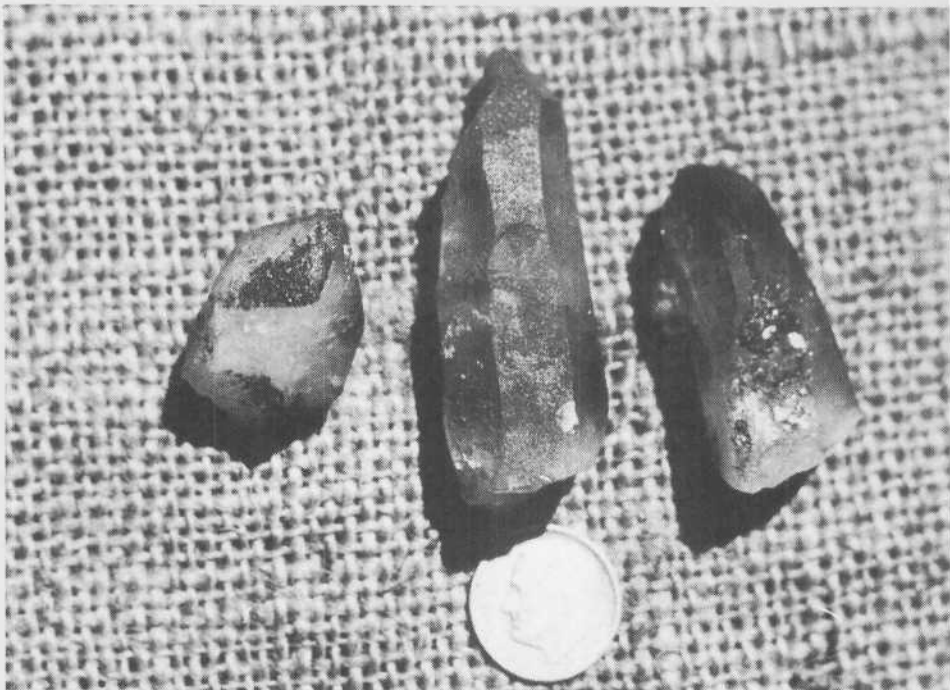
by MARY FRANCES STRONG

photos by Jerry Strong

SINCE THE day in my early childhood that I first picked up a small quartz crystal on a mine dump, I have been fascinated by these "gems of nature." The awe of their brilliant clarity, crystal form and variety of occasional inclusions has kept me a "seeker" throughout my life.

I look for the unusual crystal and, from the high peaks of the Colorado Rockies to the depths of Death Valley, specimens have been added to my collection. Just mention a possible quartz crystal location to Jerry and me, and, just like Jackie Gleason used to say, "Away we go!"

One of the most interesting deposits we have ever visited was the unexpected result of our innate drive to fully explore any region we visit. In this case, it was a section of dirt road at the base of the Inyo Range in Owens Valley. Our



Above: Three of the little beauties found at Crystal Cove. Green chlorite is sprinkled over the crystal on the left. Center specimen has a "golden frosting" of specular hematite on its termination. The smoky quartz crystal on the right is covered with sparkling specular hematite. Left: The "Eastside Road," in the foreground, is merely a set of tracks at the base of the Inyo Range.



Crystal Cove

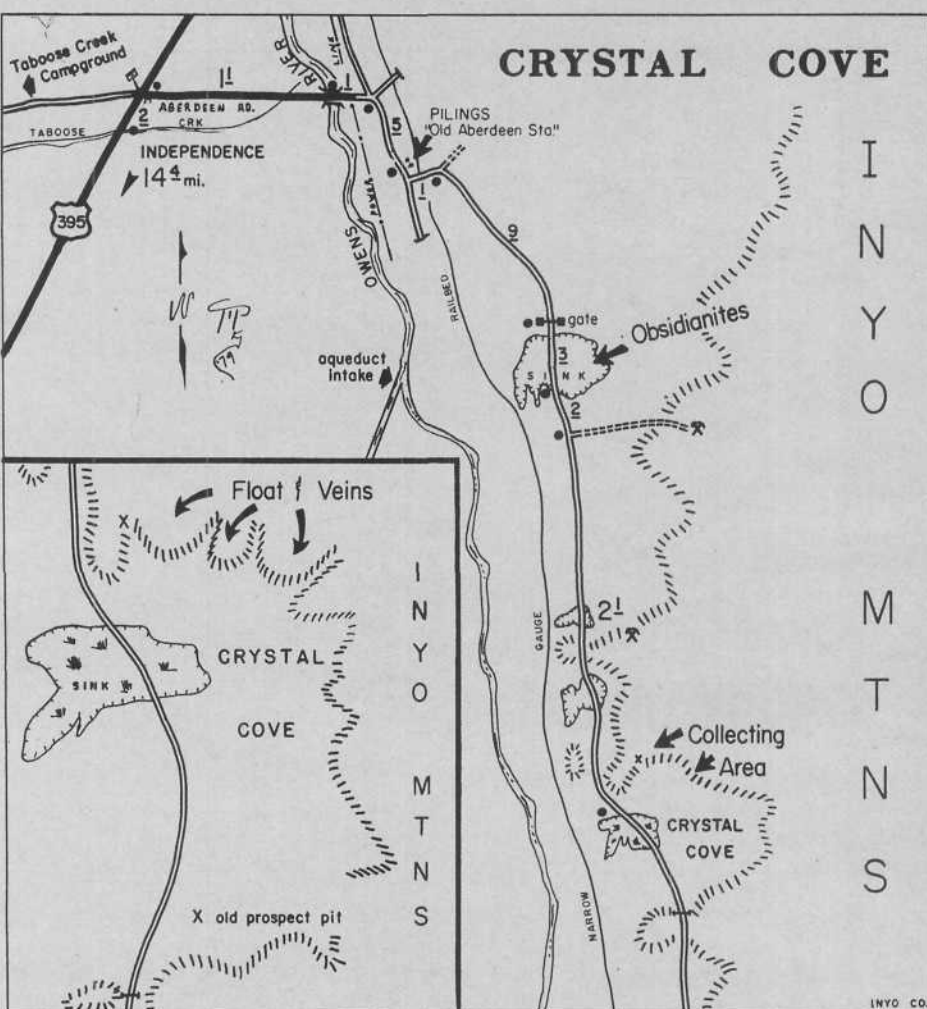
familiarity with this great trough, along the California-Nevada border, dates back several decades. We had begun to feel we'd more or less traveled all the important back-country thoroughfares.

We were camped at Sawmill Creek when I mentioned Aberdeen Station was possibly the only such site we'd not visited along the abandoned Carson & Colorado railbed. "Hmm," Jerry replied, "maybe we should correct that oversight." After checking a topo map of the area, we decided to make a loop trip and explore the stretch of eastside road south of the station site.

Early the next morning we headed north on Highway 395. Across from the entrance to Taboose Creek Campground we turned east onto paved Aberdeen Road. This turnoff is easy to find when approaching from either north or south. Just watch for the large sign that identifies Taboose Creek Recreation Area and Campground.

After crossing Owens River, the pavement ends near the base of the Inyo Range. The latter form the eastern border of Owens Valley, while the 14,000-foot peaks of the Sierras flank the west. The grandeur of these lofty ranges is breathtaking to behold. We never seem to tire spending time in their presence. The Inyos are similar to the Sierras in their ruggedness, but differ somewhat geologically. Finger-like ridges have formed along the base of the Inyos which are separated by alluvial-filled coves. It was in one such locale, "Crystal Cove," that we found a deposit of beautiful quartz crystals.

A short distance beyond the pavement's end, we turned south, then passed a corral and cattle loading ramp before reaching several clumps of tamarix trees and old concrete piers. This is all that remains of Aberdeen Station—once an important watering stop on the little narrow-gauged railroad (Carson &



Colorado) that was affectionately called "The Slim Princess." Today, the tracks, tank, windmill and section houses are but a memory. We browsed around the locale and picked up several spikes along the old railbed.

The "Slim Princess" served Owens Valley for 77 years and provided a much needed shipping system for ranchers' beef, farmers' produce, as well as supplies for businesses, residents and booming mining camps along its route. When the Great Depression appeared in the '30s, Los Angeles had already grabbed land and water rights in Owens Valley and completed the Los Angeles Aqueduct. Ranching and farming had come to an end in the Valley. Most of the

mines had begun to play out, all of which considerably reduced railroad shipments and revenues.

It was a time of massive railroad abandonments which included the Carson & Colorado tracks north of Laws. The narrow-gauged "Slim Princess" now served the Valley between Laws and Keeler. Fortunately, Southern Pacific Railroad, which had purchased the line in 1900, had completed a standard gauge track from Mojave to Owenyo (1908) to handle the materials needed for building the aqueduct. The two lines met at the Owenyo Yards where shipments were transferred from standard to narrow-gauge or vice versa.

The "Slim Princess" continued to ply



Left: Earth movement has shattered the quartz veins and some hardrock mining is required. By prying carefully into the veins, a variety of good crystals, milky, clear, frosted and smoky may be found. Below: The cove's northern slopes contain numerous veins of quartz. The large arrow indicates the one we worked. Small arrow points out the author carrying her "prizes."



her trade for another three decades, but the handwriting was on the wall as business gradually decreased. On April 30, 1960, the railroad was abandoned and by fall even the rails were gone. Railroad buffs should be glad to know that considerable evidence of the little line still remains.

A section of track (Dolomite spur) once crossed the road at Dolomite, but is now under a coating of asphalt, though a short portion is still visible on the shoulder. The railbed is highly visible and can be followed over most of its route through Owens Valley. Keeler Station still stands and has been declared an historical monument (*Desert*, July 1978). Nearly all the station and siding sites can be located and visited.

The site of Owenyo is fascinating (*Desert*, July 1972) and has considerable memorabilia still around. A visit to the fine railroad museum at Laws will intro-

duce you to the "Slim Princess." Obtaining a copy of John B. Hungerford's book, "The Slim Princess," will provide enjoyable and factual reading for railroad enthusiasts.

Leaving the site of Aberdeen Station, we turned left onto dirt tracks and crossed the railbed. *Watch carefully for this turnoff, as it is easy to miss.* (See map.) Less than a mile of travel brought us to a closed cattle gate—leave all gates as found. We now dropped into the first of several dry sinks. This one was three-tenths of a mile in length and obviously contained water from time to time.

The white crust covering the sink was liberally sprinkled with small, rounded pebbles. We stopped and investigated to find they were sheen, mahogany, black and brown obsidianites. In a short time, we had collected enough specimens for a couple of runs in our tumbler. Two smaller sinks, also containing obsidian-

ites, were crossed as we continued south.

We drove along very slowly, as we like to watch the float on either side of the car. The road now climbs a "finger-like" extension of the mountains, then dropped down to almost rub elbows with the Inyo Range. All of a sudden, Jerry stopped the pickup and ran back along the road a short distance. He returned with a perfect black obsidian arrowhead. It had been laying withing four inches of our tire tracks. I am always amazed at his ability to spot such items and, as I've said before, "if one is anywhere in the area, he will see it!"

At this point, we pulled off of the road to have a look around. In a few minutes, I had picked up a small, doubly-terminated quartz crystal along with several other specimens. Our plans for the day were quickly changed. We returned to Sawmill Creek, picked up our trailer and were happily camped in Crystal Cove that evening.

The next day, a little exploration led to the source of the crystals. They were weathering from quartz veins on the northern slopes of the cove. Many beautiful crystals were found in float. They ranged in size from one-quarter to three inches in length and many were doubly-terminated. Some had rusty iron stains while others were clear and ready for exhibit.

The majority of crystals we have collected are clear with good terminations. The latter are often "frosted" with golden or green flakes. Specular hematite is responsible for the "golden hue," while chlorite provides the greenish coloring. These specimens are very attractive. Other specimens have areas where the metallic hematite glitters and sparkles brilliantly—these are "golden gems," indeed. A few of the crystals we have collected contain inclusions—probably chlorite. You can also find nice specimens of specular hematite and epidote at this locale.

On a subsequent trip, Jerry and I decided to do some serious digging. We opened a quartz vein which is slow and tedious work, but often rewarding. A miner's pick, geology pick, chisels of several sizes, whisk broom and can of water proved to be absolute necessities.

Prying along an already shattered vein, we discovered numerous vugs and



Three "sinks" are crossed enroute to Crystal Cove. They are liberally sprinkled with black, brown, mahogany and sheen obsidianites.

plates of crystals that were clear, frosted, milky and smoky. Some of the vein was so intertwined with crystals, it was impossible to separate them without damage.

Jerry decided to explore the ridges above the Cove, while I elected to continue working along the vein. He found quartz outcropping throughout the area and made two great finds—a small, crystal-clear quartz birdpoint and a beautiful, three-inch, smoky quartz crystal. Not to be outdone, I had uncovered a numbered of fine frosted specimens. All were real jewels.

The Inyo Range is composed of complex folded and faulted Cambrian through Triassic sedimentary rocks, in addition to Triassic volcanics which have been intruded by granitic masses related to the Sierra-Nevada batholith. At Crystal Cove, there is a good exposure of the granitoid mass containing a series of parallel veins and connecting stringers. This is, in all probability, an extension of the granite body exposed several miles south at Crystal Ridge. However, the crystals found at the Cove differ somewhat from those at the Ridge.

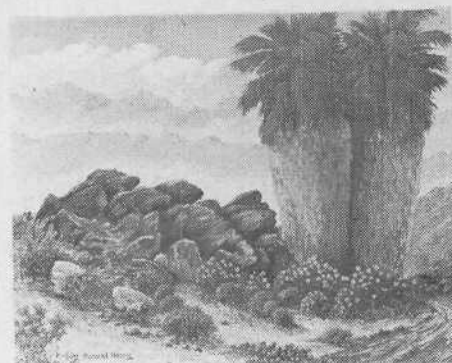
Owens Valley is a fine recreation area. Not only is there outstanding scenic beauty, good rockhounding, fishing, hik-

ing, campgrounds, but museums and historical sites to visit. Write the Visitor Center at Lone Pine, California 93534, or stop by the Center which is open daily. It is located just south of Lone Pine at the junction of Highway 395 and State Highway 136. The staff can provide information and directions to other locales you may wish to visit.

From time to time, we have returned to Crystal Cove. We haven't run into other rockhounds nor does there appear to have been much collecting. Perhaps this will change when the locale is included in the next revision of "Desert Gem Trails." It was accidentally omitted from the last revision.

Crystal Cove is a safe refuge, yet easy to reach and seemingly far away from civilization. The view of towering mountains and broad, verdant valley constantly changes as the sun marches across the sky. Nights are bright and clear—the stars almost touchable. Here, safely closeted in the arms of the Inyos, the pleasant sound of rustling wind and gentle calls of the nightbirds will lull you into a deep, refreshing sleep after a day of successful crystal collecting. Perhaps you will feel as Jerry and I do—Crystal Cove is one of our favorite places to get away from it all. □

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First, in January 1975, in order to handle the ever-increasing numbers who flock there, both protection and interpretation dictated an entirely new approach, the self-guided tour. After 49 years, the traditional personalized ranger-conducted tour was no longer personalized and neither protected the cave from nor interpreted it to the huge crowds adequately. So a system of going through at your own pace, entering whenever the caverns are open, staying as long as you like, taking photographs to your heart's content is now permanent procedure. Roving rangers answer questions, give talks, deal with emergencies. Lighted signs along the trail tell the cavern story. And an electronic system of earphones with 43 stations gives a running commentary on three channels — for adults, children, and Spanish-speaking visitors — as you walk along its three miles of trails. Instead of hundreds being herded through non-stop with little if any contact with uniformed personnel, suddenly the cave seems huge and relatively empty again. You can enjoy its magnificent features at your leisure with your family. And you learn much more.

In 1968, the U.S. Geological Survey contracted to make a cave climate study with particular emphasis on the unnatural drying out of the cave because of man's presence. Carlsbad Caverns is an essentially dry or dead cave — that is, 95 percent of it no longer grows forma-

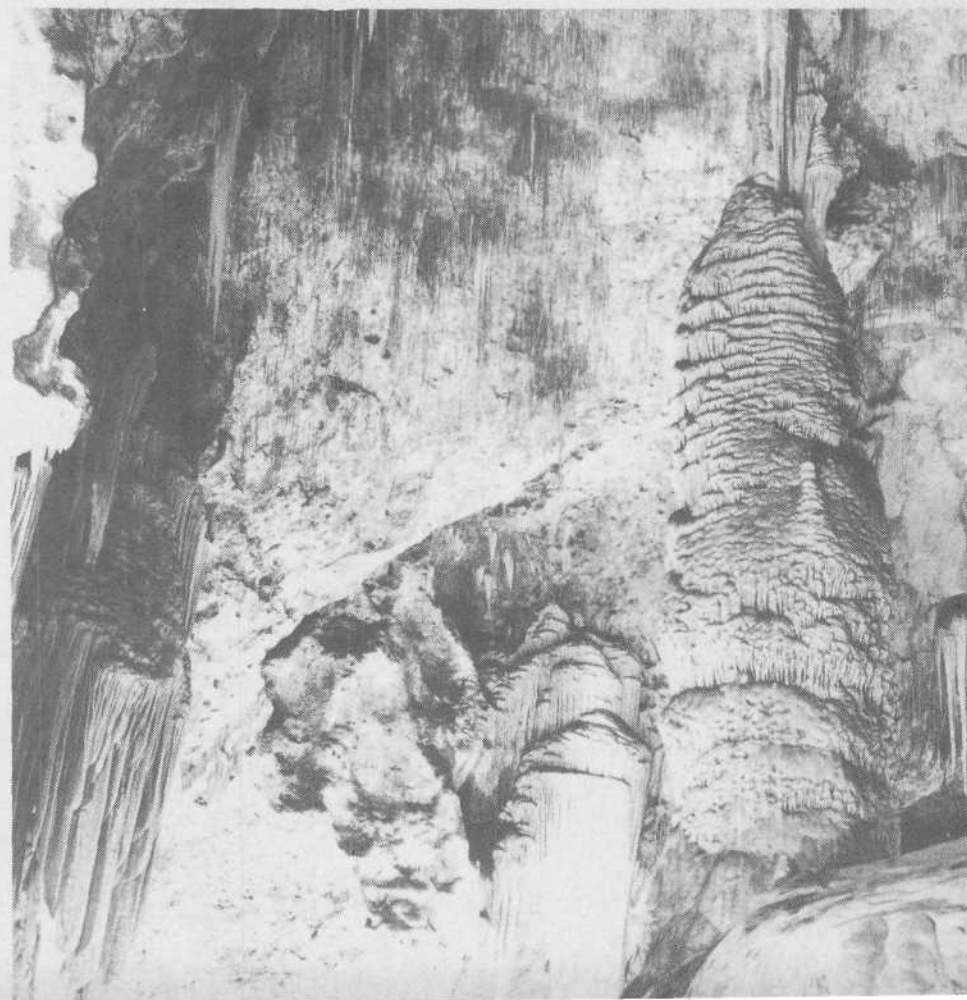
tions because the topside Chihuahuan Desert climate does not provide enough seepage from rainfall. But the five percent of normal active growth should be left undisturbed. Just what this would involve was left to scientific instruments to divulge.

The U.S.G.S. report in 1971 recommended the sealing off of the two 754-foot elevator shafts up through which the sometimes howling wind had funnelled off moisture at an alarming rate since initial installation in 1931. In 1972, revolving doors with an air lock system effectively blocked further unnatural dessicating of the cave. Continued monitoring of the cave climate by the National Park Service records substantial improvement. The renowned Big

Room with its floor area equal to 14 football fields has attained a stable balance more approximately the cave's natural state.

At about the time that the self-guided tours were instituted, another man-introduced substance was found to be harmful to the cave environment: tobacco. Its fumes polluted the air and coated the formations with a fine but stubborn film and butts littered trail and off-trail areas. So smoking was banned underground. Any visitor who wants to smoke is welcome to take the 57-second elevator ride to the surface and back and then continue his tour. Meanwhile the cave has been shielded from an unnecessary intruder.

With the advent of self-guided tours,

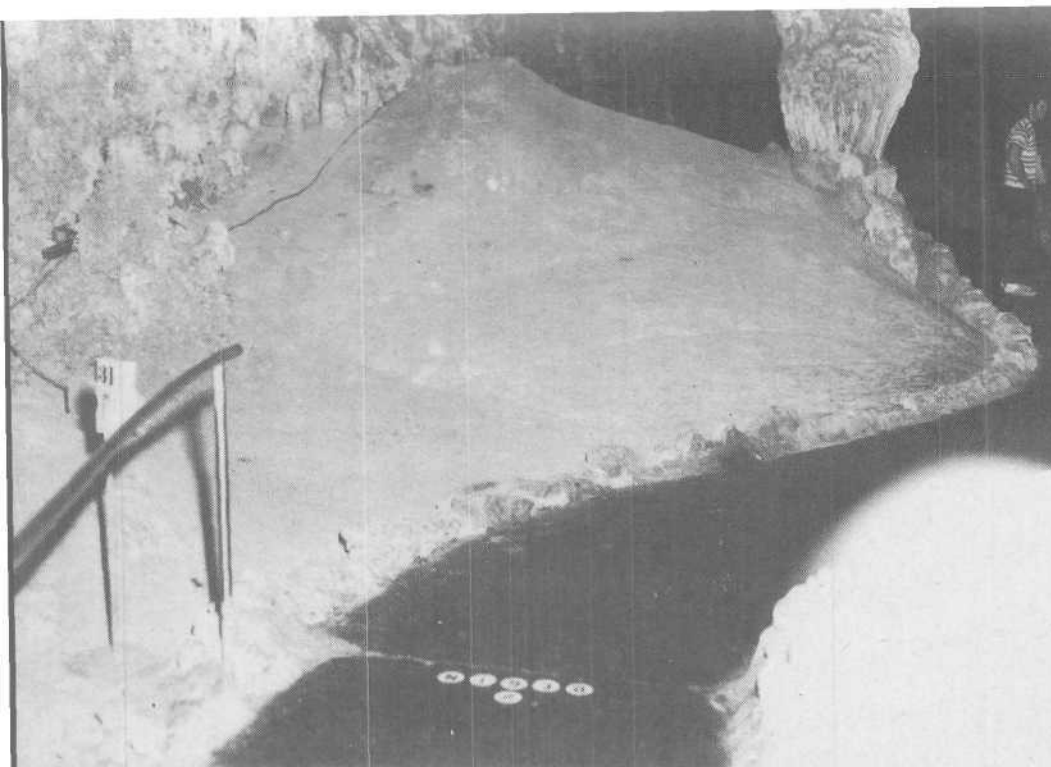


CARLSBAD CAVERNS

by ANNETTE
RICHARDS
PARENT

Right: Kay Rohde and helper spray calcium hypochlorite solution from five-gallon backpack onto some stubborn algae which disfigures a stalagmite. Below: The Giant Dome in the Big Room had collected great quantities of algae, dust and lint during the years and required some major restoration work. All photos courtesy National Park Service.





New wiring laid out away from the trail during the rewiring of the cave. The small white circles on the pavement of the trail remind visitors to lift their electronic listening devices to their ears at the start of a new "loop" or tape of information on their tour of the cave. National Park Service photo.

another abrupt change occurred: for the first time, a continuous twilight zone extended from the Natural Entrance throughout the cave. Instead of being turned off between tours, lights were on from the opening of the cave in the early morning until the last visitor departed at the end of the day. As much as half of the 24-hour period the cave was lit — its natural pitch dark environment violated. What effect was this going to have?

With more load carried by the electrical system — a system that had grown piecemeal since it was first introduced on a relatively primitive scale in 1926 — there were increasing breakdowns that were not dangerous because of standby lighting but were certainly undesirable. By 1976, the entire cave was rewired with over 12 miles of secondary wiring and over 800 individual light fixtures and a professional lighting expert imported to provide safe lighting for trails and to set off stalactites, stalagmites, columns, draperies, soda straws, flowstone, aragonite and popcorn to their best advantage. New fixtures were predominantly fluorescent as compared with the hot and wasteful incandescent bulbs previously. Now the cave was better illuminated with less electrical current. This saved energy and therefore cost and prevented so much heat from escaping into the cave atmosphere.

One of the electrical crews working in the King's Palace discovered to his amazement that its flat floor was not the original one! It was, rather, mud and fill from blasting the tunnel into the Papoose Room and from trail building. Apparently, rather than being carted out of the cave, the excess rock and dirt had been spread evenly on top of the real and irregular floor beneath!

This discovery led to much speculation: what other cave areas had been tampered with (with the best of intentions presumably — convenience, tidying up, saving of manpower, time pressures, cost, etc.) in the course of its half century of public use? What rubble was normal and what had been moved? What amount of off-trail miscellanea was native, what alien? What had been assumed to be natural maybe was not . . .

In the fall of 1976, a former seasonal woman employee, Katherine Rohde, asked if she could become a Volunteer In Parks (V.I.P.) and clean out some pools starting with Mirror Lake. Superintendent Donald A. Dayton gave the go ahead. Gradually, a program mushroomed, a fitting bicentennial project.

Starting with the first comprehensive survey of the entire cave, she undertook the admittedly impossible task of unravelling the many layers of development and sorting out from every avail-

able source literally what was the B.P. (before people) rock bottom authentic cave. She wanted to actually restore it wherever feasible to its original condition. There were four major categories: algae, mud and fill, dust and lint, and trash and litter. Before undertaking any project, testing and observing any effects it might have were imperative. Findings and restoring activities were documented and a cyclical maintenance program was set up to keep this backlog from ever building up again. The overall purpose: to restore to normal and to do such a good job that no one would even notice! Past mistakes were not to be compounded nor would the program be guilty of overkill in the zeal to restore. This experiment, a pilot project, would allow no more destruction in the name of restoration or development.

Kay worked alone from October until February when she became a member of the Guide Force when restoration work was done after hours until funds became available in May. From mid-May to mid-August, 1977, she and a full-time salaried crew of three other women got down to serious business.

Their first target was algae. Algae thrives on moisture and light, the combination of which provides the radiant energy for photosynthesis. Intensity, duration, placement and type of light determine algae proliferation. The new lights were at least less favorable to its growth. But given wetness and light, algae will grow. So since light was indispensable for cave tours and moisture was natural in certain areas, they tackled the problem of how to remove it periodically.

Careful tests of chemicals on areas and observations of their effects on creatures native to the cave were conducted — on diplurans, springtails and crickets. Also, the effectiveness of the chemicals in getting rid of the algae without damaging the speleothems was tested. The crew discovered that algae breaks down its host: in other words, it had often etched its image into the calcite permanently! There was nothing to be done about this — except to keep new algae from forming and continuing the damage.

The best and safest chemical, one-half cup of calcium hypochlorite diluted in five gallons of water, worked like magic — frequently without scrubbing! Forty-pound backpacks were carried to the

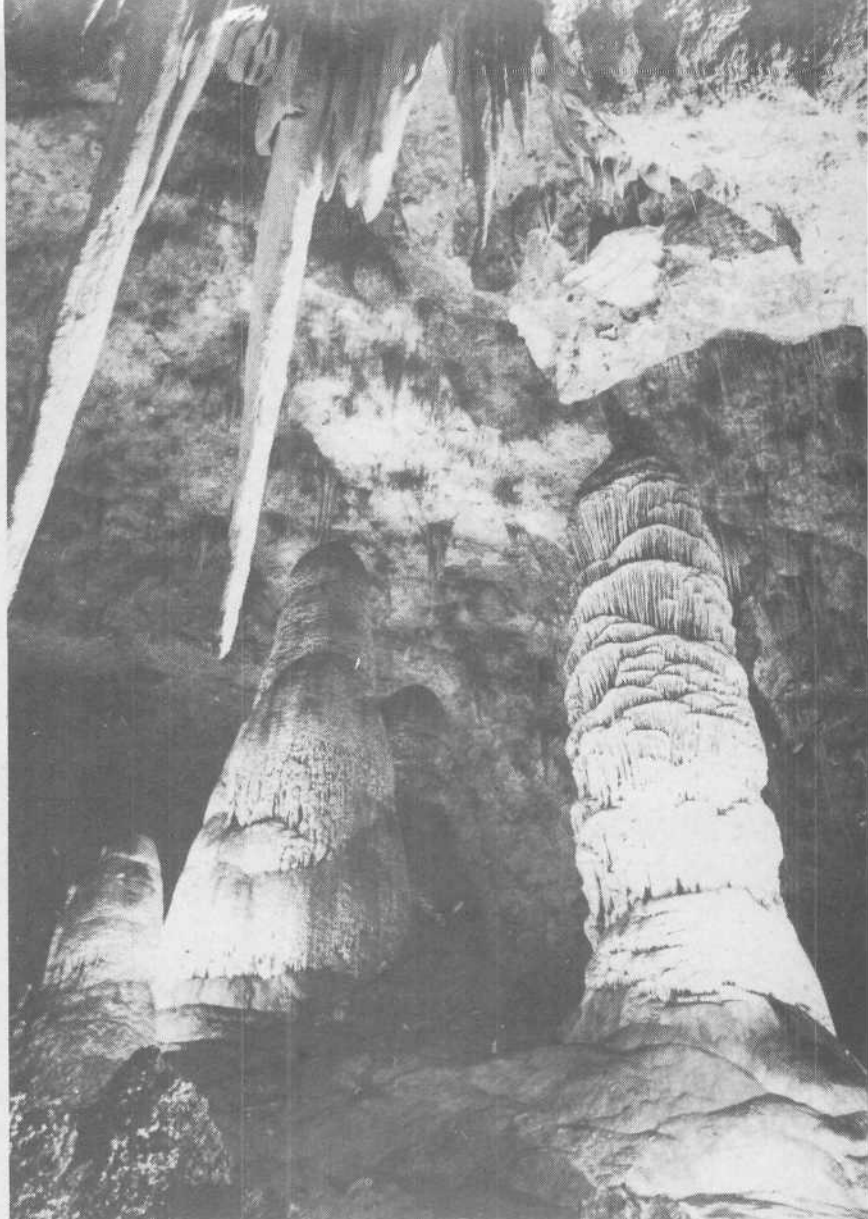
algae site and the solution was sprayed — and resprayed where needed — in one instance 52 gallons on 11 trips! The main target was the Big Room with the King's Palace, Queen's Chamber, Green Lake and Papoose Rooms coming in close second. The monumental proportions and relative lack of decorations on the Main Corridor precluded any major work there.

Training sessions for other cave employees explained just what was being done and why. The work was sometimes done during the day with the strict proviso that it not interfere with visitor foot traffic or enjoyment. A sign was posted at the Natural Entrance and again at the entrance to the Big Room (for those entering the cave via elevator rather than by the Main Corridor) to the effect that "You may see employees off trails. They are working on a restoration project. Please don't let this mar the pleasure of your trip." So the work was used as an interpretive tool for both personnel and public to expand their understanding of the job. It wasn't every day that one could see the overhaul of a cave in process!

The work was dangerous on occasion. It certainly involved heavy physical labor. It was wet and dirty and caused aching arms, sore backs, stiff and bruised legs, tired muscles, blisters, scrapes and cuts. Crew members were chosen carefully for their love of the cave, for their stamina, and for their willingness to work. It was no picnic. It was alternately boring or picky, chilling (sitting in one position on cold 56° hard rock or wading or even scuba-diving in 54° pools) or back-breaking (pushing 200-pound wheelbarrows over the 30 vertical-foot Rock of Ages Hill on the narrow steep winding trail or lugging heavily-laden buckets). And while many seasonals volunteered for the big chores, the work was done mainly by the all-woman crew.

Tools and equipment included the six cubic yard wheelbarrows, 12-pound, five gallon backpacks with spray nozzles, rakes, brooms, nylon bristle scrub-brushes, toothbrushes, whiskbrooms, flashlights, headlamps, tweezers, knives, long-handled spoons, masks, snorkles and wet suits, ladders, ski wax scrapers, garden hoses, fingernails — and persistence, resourcefulness, determination and ingenuity! A job was

The Hall of the Giants in the Big Room needed much cleanup from algae growth and dust and lint accumulation.



done by one person, a pair or as many as 13. A checkup might take 15 minutes; a major project could take 15 trips and almost 200 man hours. One evening's haul of mud involved carting 10 full wheelbarrow loads in three and one-half hours. If the rubble was cave rock, it was left in the cave; if it was imported matter like cement blocks, emery chips or asphalt, out it went!

Coins, particularly pennies with their copper makeup, were found to leave a permanent stain on pool bottoms. Other materials picked gingerly with numb fingers from pools were fruit pits, orange peels, flash bulbs, film, slugs, fishing singers, wads of chewing gum, candy wrappers, tobacco and USO's — unidentifiable submerged objects! Not that pools had not been cleaned out innumerable times before!

In all, some 29 areas in the Big Room, 12 in the four Scenic Rooms, and 11 in the Main Corridor were studied, re-

stored and documented. Twenty areas were treated for algae, 21 for lint, 12 for trash and litter, and seven for mud and fill. Some 15 areas were slated for more study pending action. This, of course, was in addition to the regular maintenance crew which picks up litter and spruces up the place daily.

Volunteers by the dozen helped with the restoration work. Even for those who received salaries, it was more than a job. It was a labor of love. We the public, are the landlords of this magnificent underground treasure house on U.S. 62-180 150 miles east of El Paseo, Texas and 20 miles southeast of Carlsbad, New Mexico on the Pecos River. Although we may not be aware of it at any particular place in the cave, we are incalculably benefitted from the massive subterranean maintenance and housekeeping which is an ongoing activity of the federal watchdogs at Carlsbad Caverns National Park. □

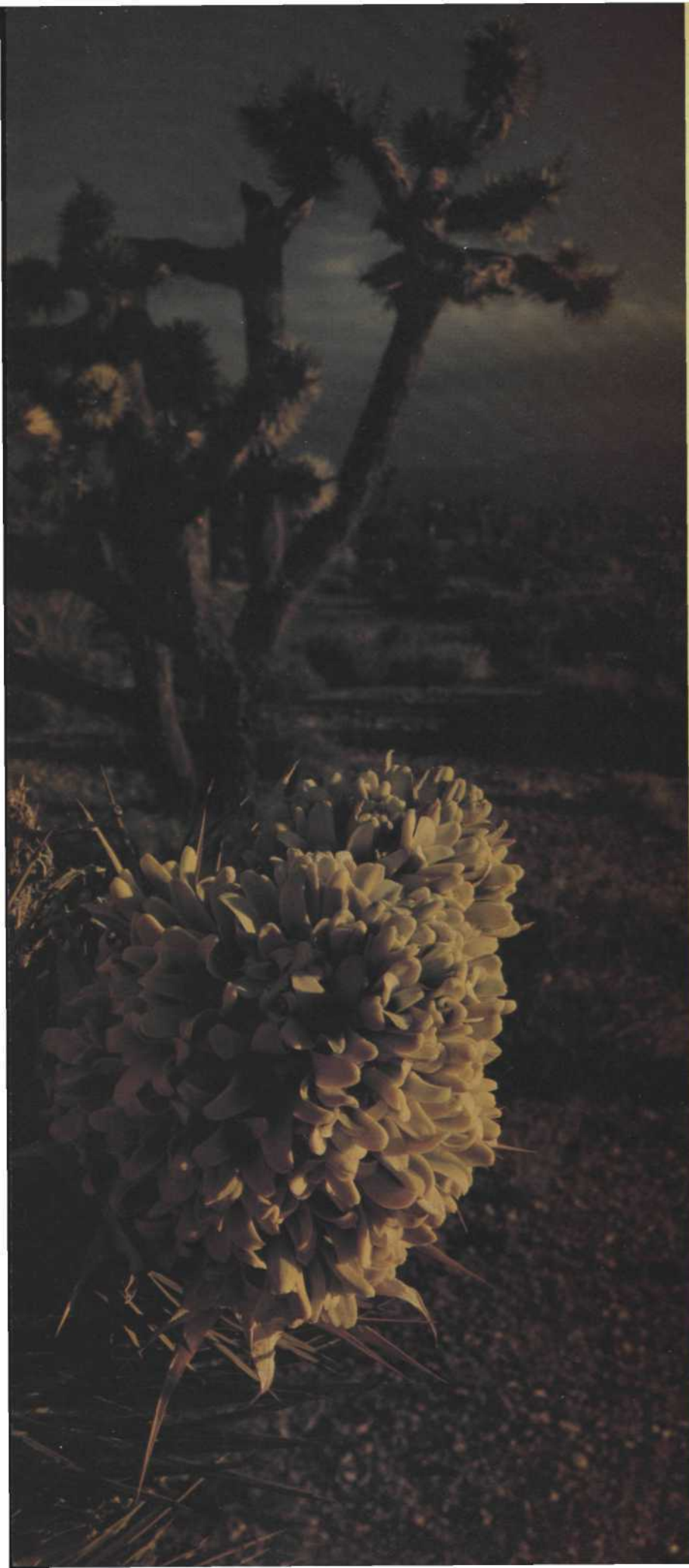
Profile of a Desert Rat

by JAMES ROBERT SQUIRES

THE DESERT RAT is characterized as anyone involved with the desert to the extent that he accepts its faults as well as its beauties and continues to love it. More than a location, the desert is an area best expressed as an arid expanse of land backed against a range of mountains in either the high or low plains. A desert is—people, animals, plants and soils, all sturdy and adaptable beyond common belief.

The Desert Rat is in search of something, as yet undefined, an elusive fragment, perhaps not wanting a final definition, yet always there just over the next hill. It may be silence in the sun or a warm wind through the canyons—or a gray moon that deceptively melts a rolling, pitching, desert floor into a sand-stretched illusion of pancake flatness that defies and befuddles the moonlight stroller. Or perhaps it is a stretch of hot sand hills that, washed with the spring rains, bursts forth in color to reveal a veritable garden of Eden.





*Beautiful Joshua blooms
in their peak are
a part of the Desert Rat's
Garden of Eden.
Photo by David Muench.*

The Desert Rat is fascinated with a land of such profuse contradictions, and this fascination has found a firm basis of understanding. He believes, as the Indians do, that the desert also is part of mother earth and as such is an essential part of the cycle of life.

Our exploding population, geared more to going than to being, descends on the deserts by the multitudes. Filled with the excitement and bustle of a large city, they expect to be entertained. Yet the desert is a place where things happen slowly. The desert is not a hasty place, and those who must live on the run can learn much from its casual, leisurely pace. A plant may take 50 years to grow, and that may be rushing things.

The Desert Rat's trophies are not the artifacts he takes away with him, but the expressions of nature he leaves behind. His reward is the care the desert will bestow on his trophies—the rocks, plants and animals. Under his watchful eye, these trophies never leave their basic setting and so continue as part of the larger concept of the living desert.

Notice how a Desert Rat walks. He has

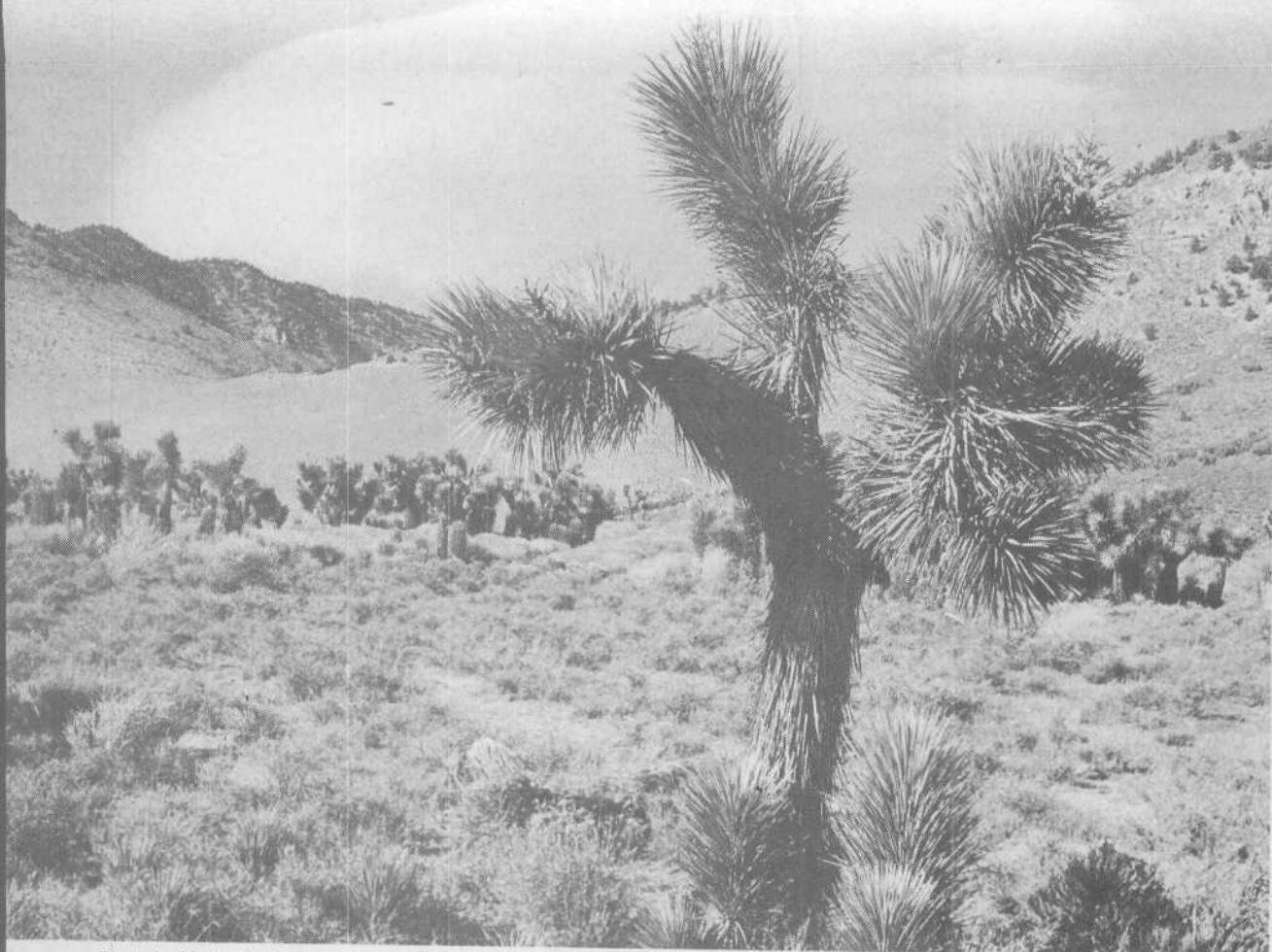


Photo by Hubert A. Lowman.

The ruggedness of a Joshua Tree forest [left] contrasts sharply with minute tracks [below] on the windblown sand.

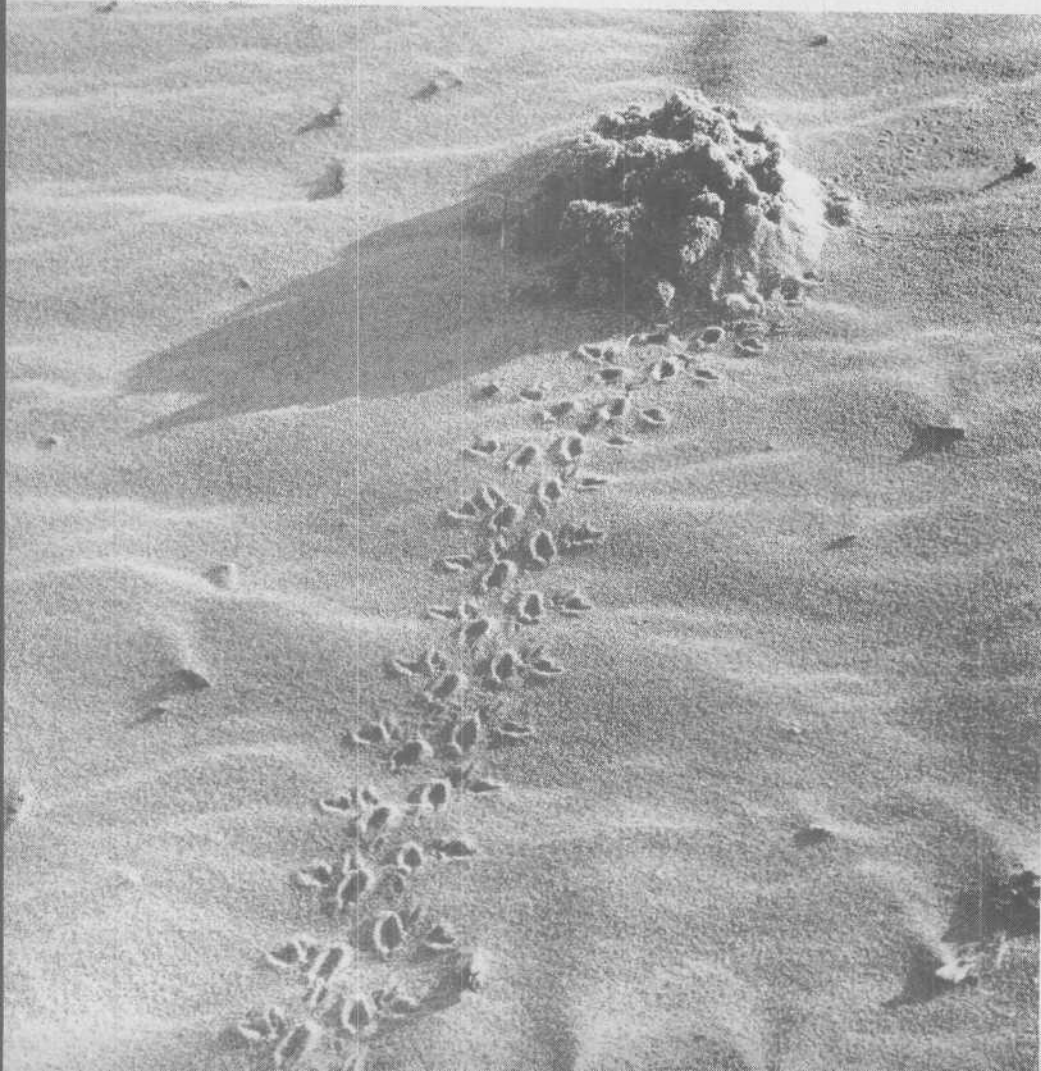


Photo by L. A. Powell.

the gait of one who cares, who is not enamored with leaving his mark, his symbolic footsteps in the desert sands of time. For he walks among a kingdom of plants and animals fragile almost beyond belief, adaptable and resilient beyond compare.

The Desert Rat will travel the length and breadth of the desert, though you will never know he was there. He leaves no footprints, damaged trails, crushed plants, burned trees, polluted waters or unofficial garbage dumps as positive signs of man's "progress."

Of course, there will be signs of his passing. If you are perceptive, you will see, for example, propped-up bushes, repaired water holes, or perhaps a trail more clearly marked. Look for tenderness towards nature where tenderness is needed. And so his passing is marked by acts of restoration to the natural way of desert things. So understandably a Desert Rat's trail is much harder to find and that's the way it should be. It poses an interesting time in the life of Man in which his going is unmarked, and in that will be his outstanding success. Man certainly needs no further rudely scratched marks across the face of Mother Earth.

The Desert Rat is an eternal optimist

*A patch of
desert lilies
[right] and a
nest in a cholla
[below] are
visual feasts for
a Desert Rat.*

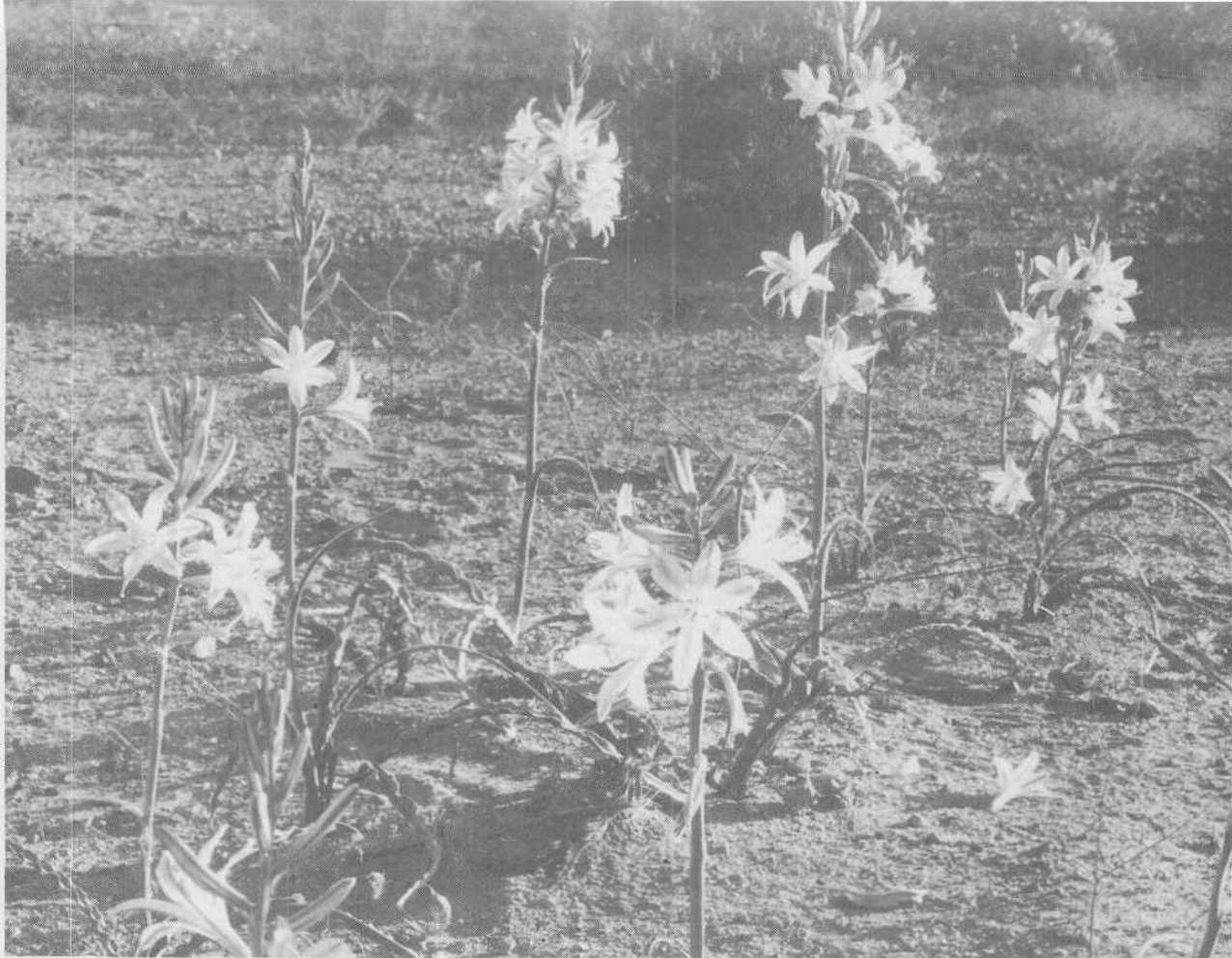


Photo by Frashers, Pomona, Calif.

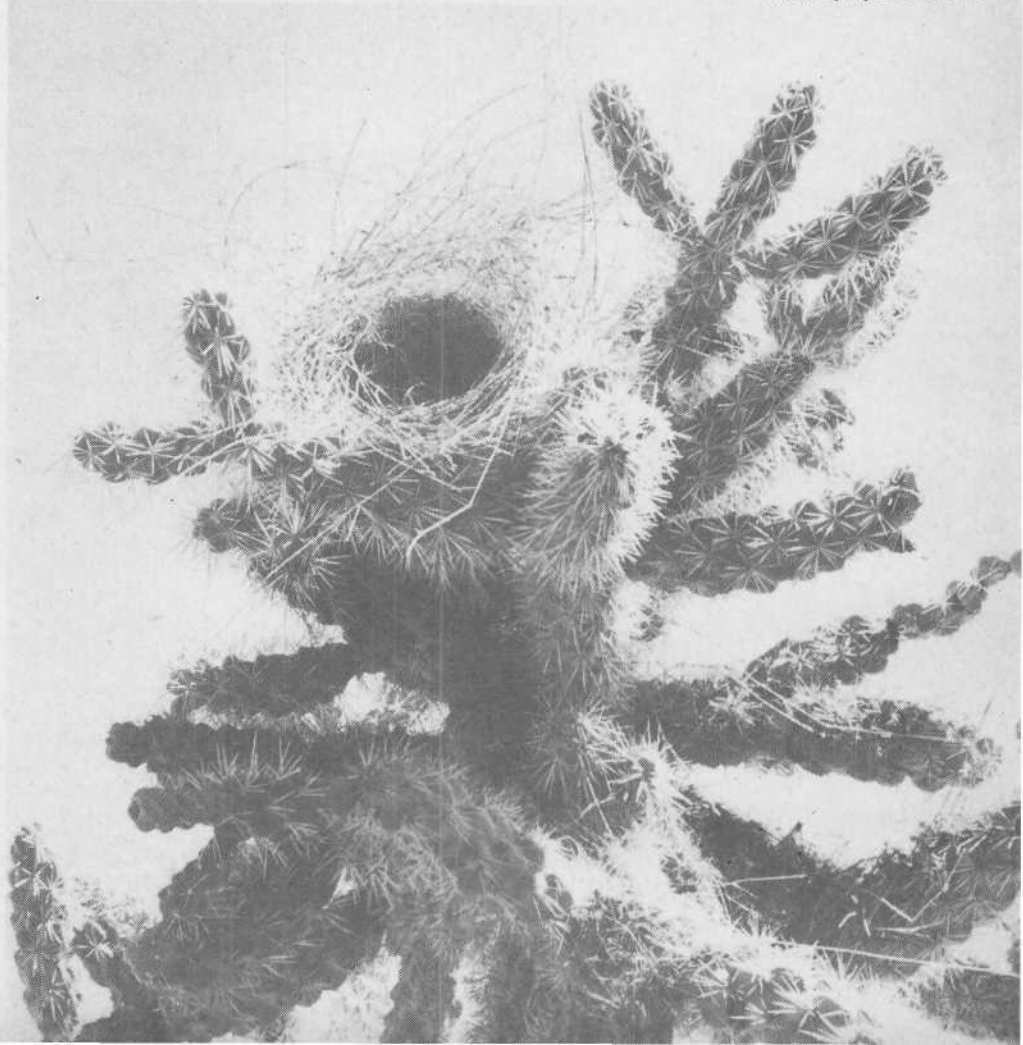
who believes in the everlasting beauty of the desert just as it stands today. Although the desert will slowly, ever so slowly change over the years to follow, any attempts by man to improve on Nature's work is not improvement but rather improvisation. The deserts will continue their discreet landslides, countless erosions and an unending fight against the thoughtless invasions of man.

Desert Rats have learned that the desert teaches us to do great things with limited resources and that time provides the answer to all questions.

The deserts may hold the answers to the basic problems of man, but in order to learn these answers we must be listening. The animals are talking to us, the rocks roar in the wind and sand whispers as it tumbles over itself along the dunes. Conservation and survival are as interwoven and natural as breathing and running and yet by neglecting one we reduce the possibilities of the other.

We are in desperate need of more Desert Rats, people who are willing to illuminate the focus of our cultural blind spot, those "others" so busy going that there is just no time to slow, pause and just be, in a very unhasty way! □

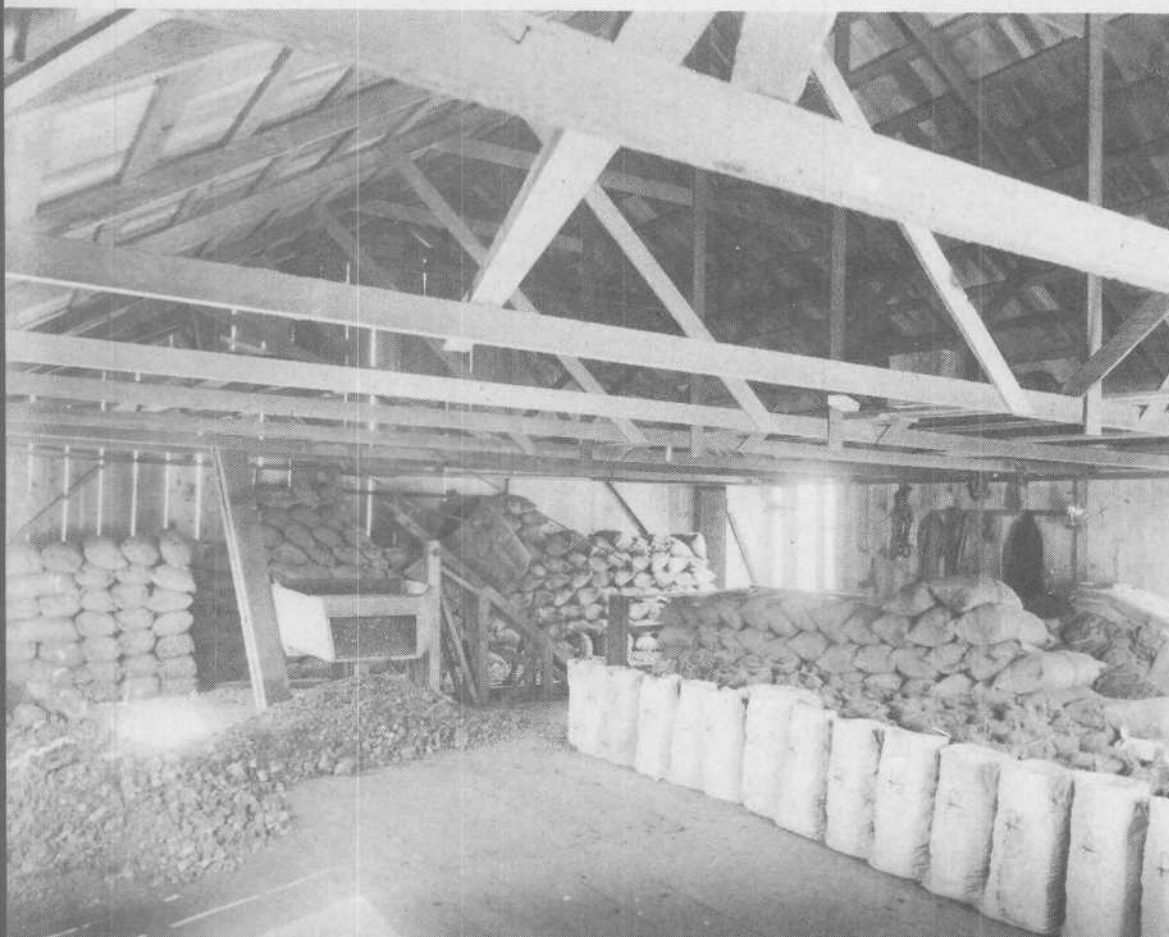
Photo by Ryan O'Brien.





Mojave Mining Memories

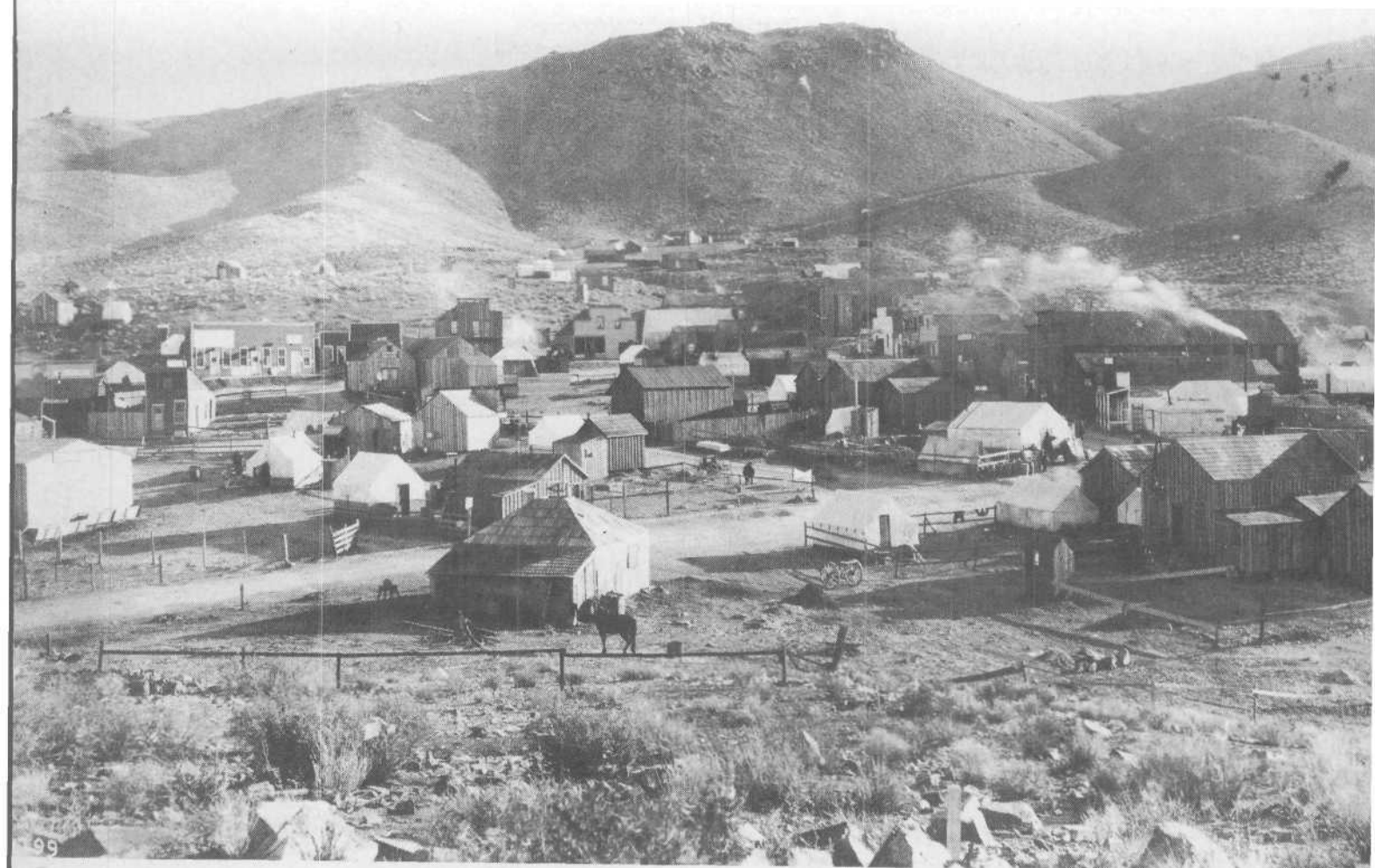
by DON MILLER



MINING AND prospecting activities in the far reaches of the California desert country spawned a number of interesting characters who once roamed in an area where one observer claimed winter is summer, and summer is but a few degrees from cremation.

Some of the men lived in regal splendor, such as Death Valley Scotty, who was domiciled in a veritable "castle" along the northern edge of what is now Death Valley National Monument.

Panamint City, whose macerated remains can be found in California's Panamint Valley, is at the head of Surprise

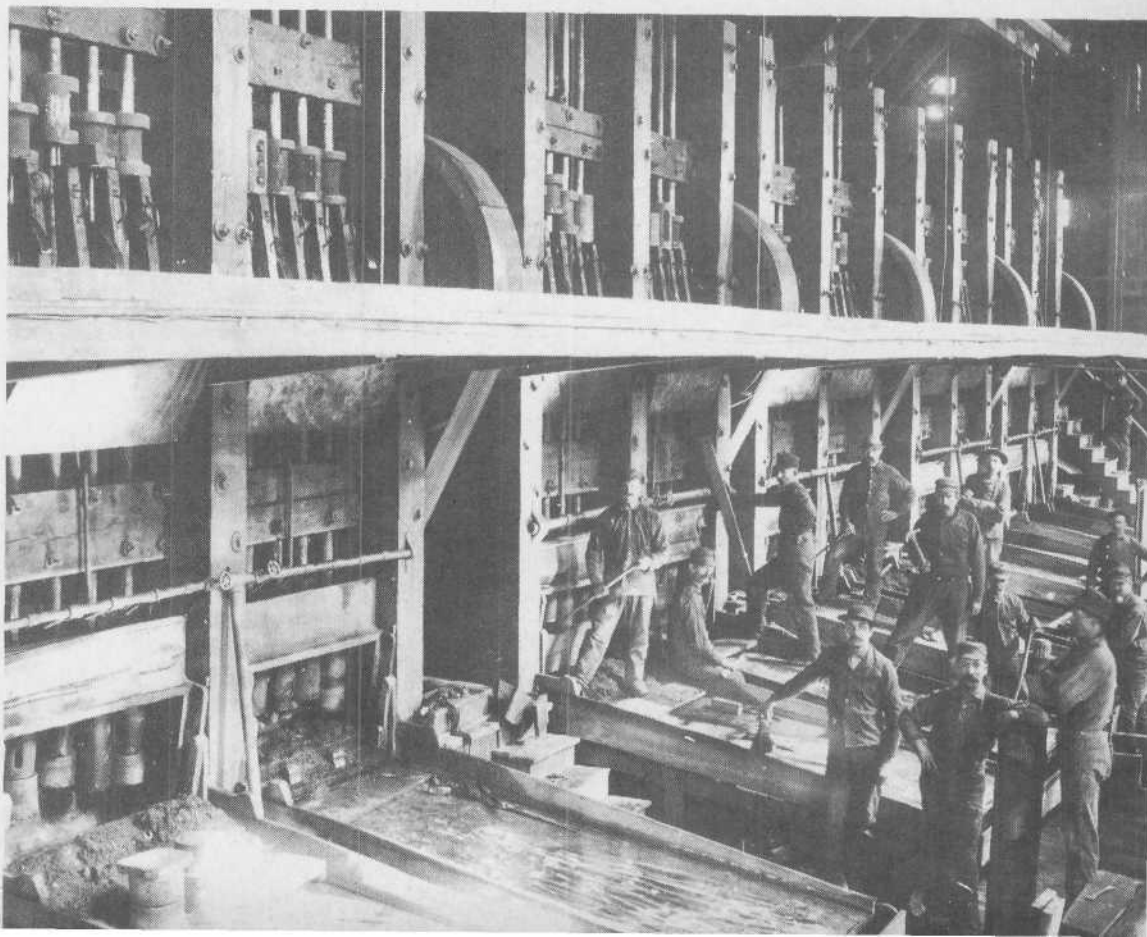


Opposite page, top: A desert miner at his home near Randsburg. Bottom: An interior view of the ore house at Rands-

burg. Above: An undated photo of Randsburg as a thriving mining center. Below: A 100-stamp mill and its crew.

Photos courtesy of Title Insurance & Trust Co., Los Angeles, California.

Canyon on the west side of the Panamint Range. It was the home of Panamint Pete—the saturnine prospector who was so lazy that during searing Death Valley summers he would not have the gumption to crawl into a cooling shadow. Pete supposedly spent the winters trying to recover from midsummer shade temperatures of up to 130 degrees. The settlement may have been named for Pete, who would aver that one day he'd get his slothful body up in the surrounding hills and "pan-a-mint" of gold. When he died at age 86, he still had not quite gotten around to doing that.





*A Mojave Desert stamp mill. Photo courtesy Title Insurance & Trust Co.
Purington's Desert Shop and Jake's Junquery at Randsburg. Don Miller photo.*



Typical of the towns in which these toilers lived was Randsburg—a mining camp named for the rich Rand gold mining district in South Africa.

The settlement is about 37 miles in an airline northeast of Mojave. Gold was first found in the area about ten miles northwest of what became Randsburg. During the winter of 1893-94, placer deposits were found at Goler Wash. In 1895 the lode deposits of the rich Yellow Aster mine were developed. The mine produced about \$6 million in gold. However, 1895 was not a big year for Randsburg, for the town consisted of only 13 buildings. But when the St. Elmo mine was discovered east of the Rand in 1896, the boom began.

The town grew to



Hard Cash Mine at Randsburg. Photo courtesy Title Insurance & Trust Co.

The Last Outpost, where miners gambled. Photo by Don Miller.

2,500 people and 300 buildings and sported a brass band, a volunteer fire department, a theatre and other marks of "refinement."

But gold mining became less profitable. Law suits, labor strikes and other troubles plagued the Yellow Aster and other mines. The Yellow Aster was once closed by a labor strike that lasted for 16 years. By 1918 the situation looked hopeless.

However, a silver strike at nearby Red Mountain brought a second breath of life to the area. The bonanza didn't last long, though, and little mining occurred in the area during the World War II era.

Several buildings mark the present town of Randsburg, and mining still continues to this day.



A Mining Town's Ups And Downs

JEROME, A copper mining town hung precariously on the 30-degree slope of Mingus Mountain some 2,000 feet above central Arizona's Verde Valley, has had more than its share of ups and downs.

During a century of existence, the mines of Jerome produced copper, gold and silver valued at \$800 million. But its economic ups and downs resemble the area's topography where 1,500 vertical feet separate the lower "Gulch" region from the upper level.

Immense fortunes were made and lost as the fickle price of copper alternately soared and plunged. Prosperity, payrolls, employment and population followed the roller-coaster antics of copper prices and the inevitable widening and narrowing of veins.

Although Jerome's history goes back only a hundred years, prehistoric Indians had discovered the "mountain of colorful stone" nearly a thousand years earlier. They mined the area for blue azurites and rainbow-hued pigments which they used to paint their bodies and decorate pottery.

Two Spanish gold-seekers, Espejo and Farfan were led by Hopi Indians in 1583 and 1598 to the now sizable hole created by the Indians, but they were unimpressed.

The actual beginning of Jerome's copper era began in 1876 when General Cook's scout Al Sieber staked the territory's first claim. His action didn't create

any ripples but for some reason the claims staked by Angus McKinnon and M. A. Ruffner created a stir among New York City financiers.

Wade Hampton, a prominent soldier associated with such names as Stonewall Jackson, General Robert E. Lee and Jeb Stuart, and later elected governor of South Carolina and subsequently to the U. S. Senate, along with Angus McKinnon's brother George sank a 45-foot-deep shaft in Woodchute Mountain.

They did not expand their claim due in part to lack of financing. But their primary objective was to sell before the rich vein pinched into nothing. They found a prominent Arizona resident, Governor Tritle, was interested and sold him their lease, along with a variety of sticky problems.

One of Governor Tritle's most persistent and vexing problems was that coke for his smelter was extremely hard to come by. It had to be shipped from Wales, around South America to San Francisco, then by rail to Ashfork, Arizona where it was loaded into wagons to be transported the final 60 miles to his smelter.

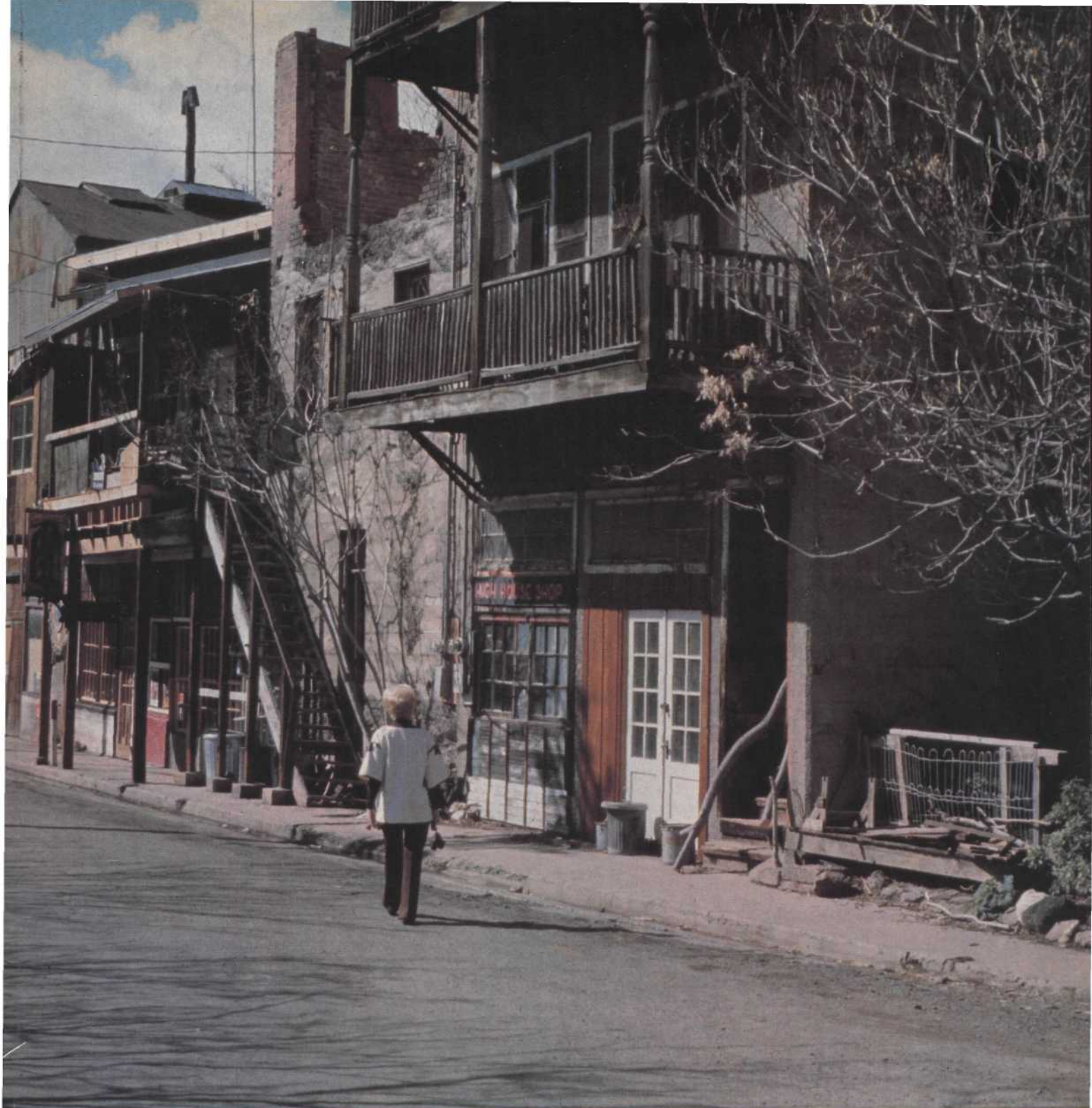
by C. J. BURKHART

Street scene in Jerome.



This operation required more money than Governor Tritle could manage so he asked Eugene Jerome and James A. McDonald to assist. Jerome agreed to assist in financing the undertaking but only if the camp would be named Jerome. It was and he did.

About this time (1880) word of the strike had reached the East coast and two financiers, Tener and Sillman, sent James A. Douglas, Sr., to investigate.



He liked what he saw concerning the ore but there was no railroad nearby so advised his backers not to invest. Eight hundred million dollars slipped through their fingers.

The United Verde Copper Company, formed in 1882, installed two water-jacket furnaces and by 1883 copper production was booming. Jerome was on the upswing. In fact things were so good that enough gold and silver was being recov-

ered to pay expenses, making the copper almost 100 percent profit.

But another "down" was about to strike Jerome. Eastern copper magnates succeeded in reducing copper prices from 19 to 11 cents a pound. This became a losing proposition so in 1884 the mine was closed.

Things went from bad to worse. Gerónimo began a bloody escapade that left more than 30 dead in Arizona and nearly

40 in New Mexico. East of Jerome in Pleasant Valley the Tewksbury and Graham feud erupted and before it cooled 19 more men had died.

Fortunes were about to reverse themselves, however. New Orleans' 1885 Exposition had an exhibition of copper ore taken from the United Verde Copper Company mines. A Montana commissioner, William A. Clark, became interested and he, his relatives and Joseph L.

Giroux, a mine superintendent, purchased 229,000 of the 300,000 existing shares in what was to become the world's richest individually-owned copper mine.

The "up" continued to rise. In 1888 the now Senator Clark moved to Jerome and constructed the Montana House, Arizona's largest stone building, housing 1,000 men.

Increased demand forced copper prices upward and the United Verde prospered to the point where they were able to construct a spur, narrow gauge railroad line from Prescott to Ashfork where it could link up with the Santa Fe. Known as the "United Verde and Pacific Railroad," this added convenience brought further prosperity to the Verde Valley.

Although Jerome burned three times in three years, it had become a bustling, rip-roaring mining town and took these down times in stride, bouncing back vig-

orously from each disaster. Additional claims were staked and worked bringing about further affluence.

For ten years the Little Daisy Mine located in Bitter Creek east of Jerome flourished, but eventually the veins began to peter out. A new investor, James Douglas, Jr., felt that the Verde Fault had caused a displacement of the copper ore and that the ore body had moved a half-mile down Cleopatra Mountain where during passing eons it had been covered by some 600 feet of limestone and solidified lava.

Four years and \$400,000 proved him correct. At the 1,400-foot level in the 600-million-year-old pre-Cambrian rock, a 300-foot vein of 15 percent ore was discovered and at 1,500 feet a five-foot strip was assayed at 45 percent. Estimated value of both veins was at least \$125 million! It paid Douglas quite well to look a little closer.

Numerous mine fires plagued the United Verde. Several sulphide ore-fed fires burned persistently with one at the 400-foot level burning for 20 years.

Bulkheads were built but with only limited success. The problem was that beyond these bulkheads, buried beneath nearly 16 million cubic yards of overburden, were 10 million tons of ore that averaged .07 of an ounce of gold, 2.07 ounces of silver and 69.4 pounds of copper for each ton. A very profitable lode.

Due to the fires the ore could not be removed by the tunnel and shaft method. This situation brought about the open-pit operation. But another problem. The smelter was situated in the middle of the pit area. It would have to be moved before work could begin.

This move brought about the birth of Clarkdale. It was decided to build a new, larger and more efficient smelter on the level floor of Verde Valley instead of trying to prop it up on Mingus Mountain's steep slope.

Smelter construction began in 1912 and was completed in 1915. Clarkdale became a model town with plumbing, sewage system, paved streets, churches, schools, auditorium and a swimming pool.

Jerome, not to be outdone, also began a spruce-up. Brick and concrete began to replace flimsy wood and canvas. The town now presented a more permanent look.

After the smelter had been dismantled and removed, Jerome began a ten-year operation to strip away the overburden that locked the rich ore inside the earth's stony crust. Finally, in March 1925, a small electric shovel was placed in the pit and the removal of ore began.

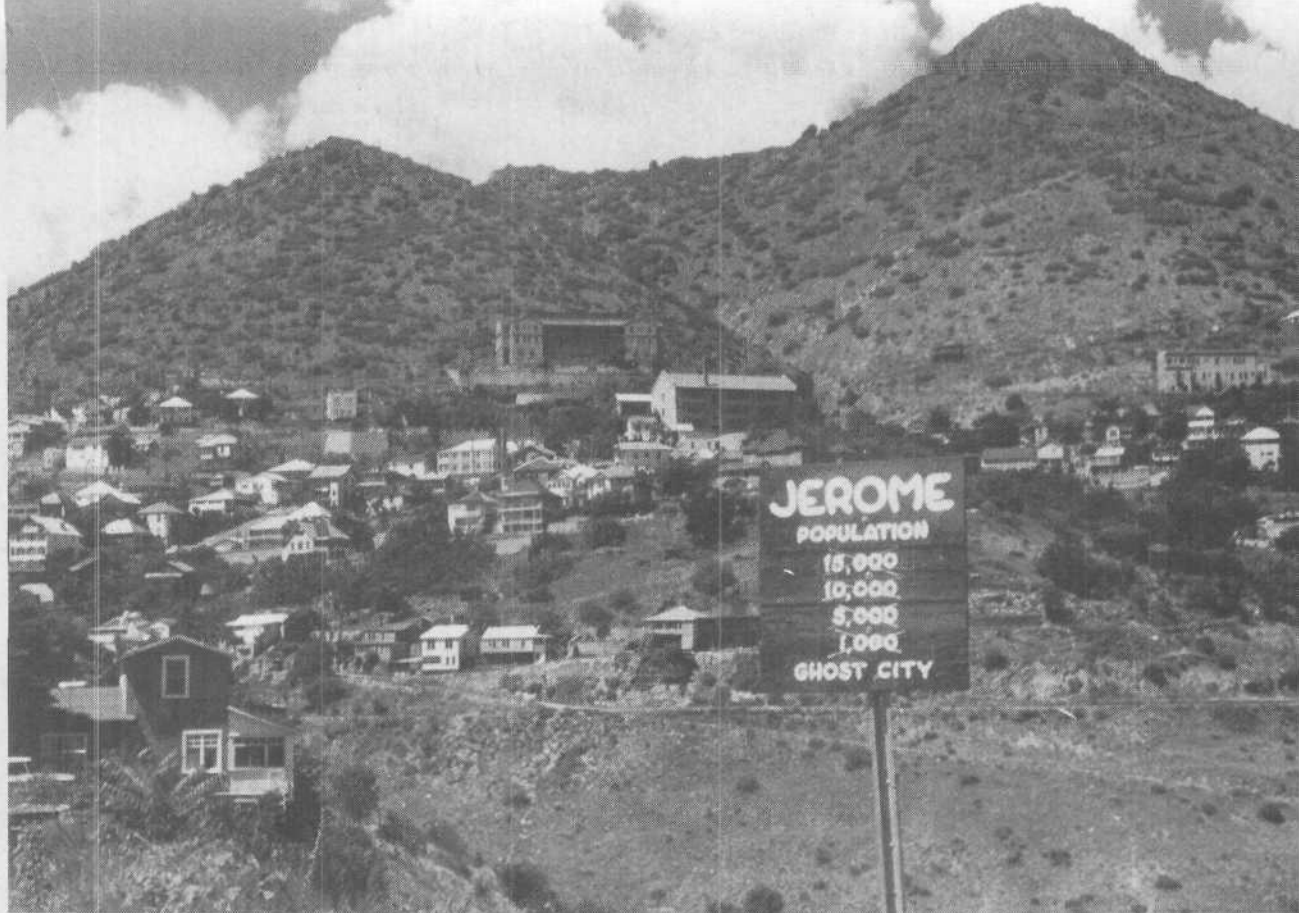
Again an upsurge. By 1929 Jerome's population had increased to 15,000 with more than 2,300 men employed in the mines.

Arizona now was producing more copper than any other state. The United Verde Mine extracted ore worth \$29 million in one year. The pinnacle of the latest upswing.

But the roaring twenties were about to be replaced by the depression thirties.



Dilapidated building attests to Jerome's ghost town status.



*Ghost Town
of Jerome,
as sign
indicates.*

The bottom dropped out of everything, including copper.

First the Verde Central Mine closed and a year later the property was purchased by the United Verde Copper Company. But copper prices plummeted to only five cents a pound and in 1932 the once high-flying United Verde was forced to close its doors.

Jerome's population plunged to less than five thousand hardy souls who desperately clung to their precipitous mountainside and a deep hope.

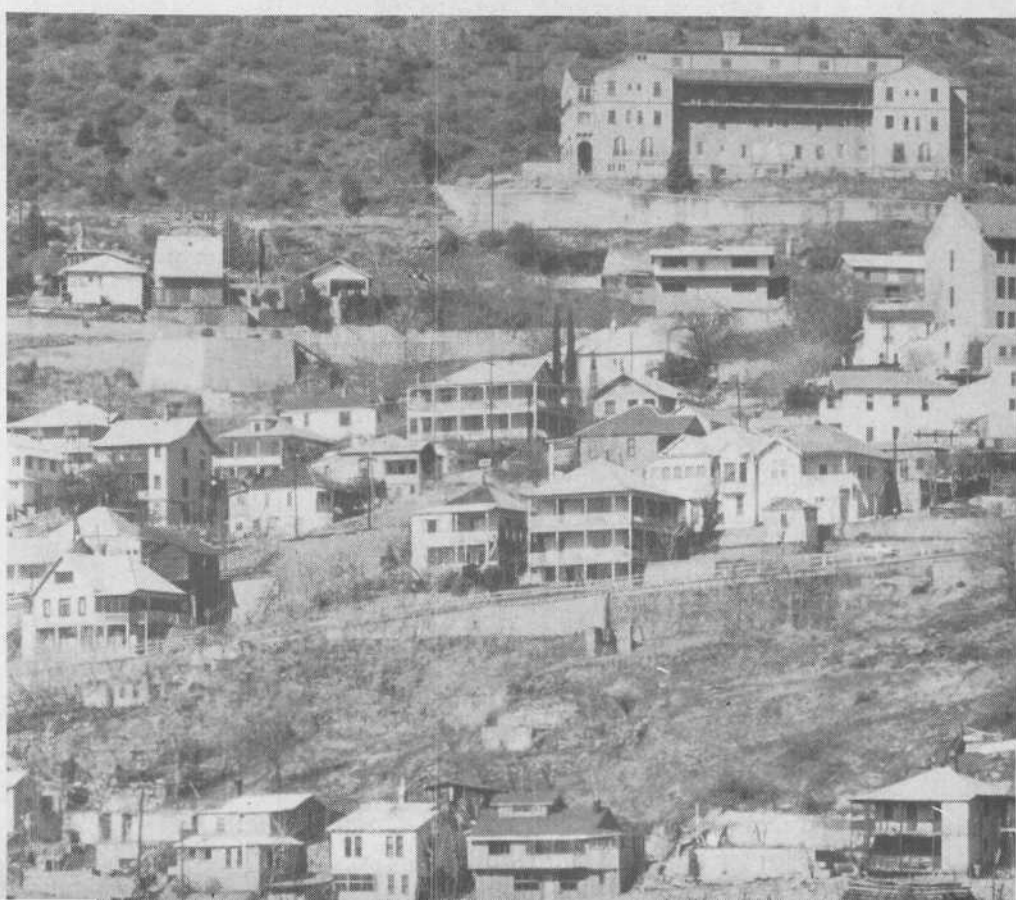
Fortunately, another upswing was in the making. James Douglas, Jr., attempted to buy the United Verde but was too late as the Phelps-Dodge Corporation had already acquired the entire operation for \$20,800,000, a seemingly outrageous price for what most thought a played-out claim.

In 1935 they re-opened the mine and smelter. World War II brought about a fantastic increase in the demand for copper, but it was a last gasp. The astronomical requirements dropped drastically after the war's end and in 1950 operations were suspended. The smelter was dismantled and workers were transferred to mines at Bisbee and Ajo.

Jerome succumbed and became a ghost town. Although the town sits atop a deposit of low-grade ore that could be profitably mined, it would have to be an open-pit operation; a tragic death for this historically rich town.

But maybe all is not lost. Why should this picturesque bit of the rip-roaring past not be preserved as reminder of a nostalgic era when a mining town survived both its ups and downs.

Could be another "up." □



*Jerome stacked up
on Mingus Mountain.*



Mountainside Museum Becomes Home For Ancient Artifacts

by JOE KRAUS

NEXT TIME you see that favorite television program with a background of Mojave Desert rocks, sand and rugged mountain country, chances are good that the site is, in addition to what you are seeing, the location of one of the most unusual museums in the world.

Few visitors or new arrivals to Southern California's Antelope Valley (70 miles north of Los Angeles) are there long before they stop their cars in that remote spot and walk over to the side of the road. And there, squinting their eyes, they will wag a finger and ask: "What's that over there by the mountain?"

That, you say, is the Antelope Valley Indian Museum, a museum devoted to

the study of primitive man, located in about as unlikely a place for a museum as you'll find anywhere. Isolated, 15 miles from the nearest town, the museum is built right into a desert hillside. The structure is the result of a dream by the late artist H. Arden Edwards. He started construction on the building, originally to be his home, in 1928.

Described by long-time owner, Mrs. Grace Oliver, as a great artist and a great dreamer, Edwards built a room at a time and incorporated the fantasy of "Piute Butte" sandstone into grottos, walls, fireplace and structural portions of the building. There's a waterfall with a gentle stream falling over the rocks.

Pathways and hallways are patterned with the rocks. About his art work, permanently embedded in the walls of the museum, Mrs. Oliver said, "I think this man knew more about color than any man of his day. He was gifted."

It took the blood, sweat and sacrifice of Mrs. Oliver, however, to bring Edwards' dream building to a reality. In 1938 she purchased the property and raised the structure from its infancy through a complete rebuilding program.

On outfitting the interior for a museum, she was well qualified. Some say it started at the age of three, when she was "lost" on a family picnic near Sapula, Oklahoma. It wasn't long, however,

before she was discovered safe and happy in a small cave, playing with pots, baskets and beads from an ancient civilization. From that moment on her driving interest has been archeology and anthropology.

As an expert at the age of 10 on Egyptology, due to the acquisition of an incomparable library, she subsequently went on many trips and expeditions to add to this knowledge. Also growing was her collection of artifacts and evidences of early cultures.

Over the years she amassed many of the museum's artifacts. Most interesting and educational, they include items you won't find all that readily anywhere else. This includes a variety of Indian artifacts and crafts of people who inhabited this continent as long ago as the last Ice Age. There are beaded pouches and personal adornments of porcupine quillwork from Indian chiefs and princesses of the Plains. There are complete basket collections and Kachina Doll collections carved from the roots of cottonwoods.

There are wood carvings from the Navajo Tribal Council and artifacts from Indian cultures dating back 10,000 years. There are cases of Indian pipes and grass skirts. There are displays of skulls and bones, basketry and pottery of the Papago and Pima people and some of the rarest prehistoric objects in the museum — grass textiles from San Nicolas Island.

But what makes the collection so unique is the blend of eye-catching displays intermingled most dramatically into the natural settings of a mountain-side and one-of-a-kind architecture.

So unique is this setting — the museum, the buttes behind and the desert scenery there — that Hollywood movie producers have found it to be one of their favorite locations for films. Several motion pictures, television series and made-for-TV movies have been filmed there. These include the TV production *The Legend of Valentino* and motion pictures *The Stone Killers* with Charles Bronson and *Crazy Mama* with Cloris Leachman.

In the 1960s, several episodes of the TV series *Tombstone Territory* were filmed there. Later came *Lassie*, *Wagon Train*, *Bonanza* and *The High Chaparral* and most recently *The Quest*, *Police Woman* and *Logan's Run*, among others.

It is probably the allure of the museum and its grounds which has also made it a



Opposite page:
Monks from
nearby St.
Andrew's Priory
visit Antelope
Valley Indian
Museum.

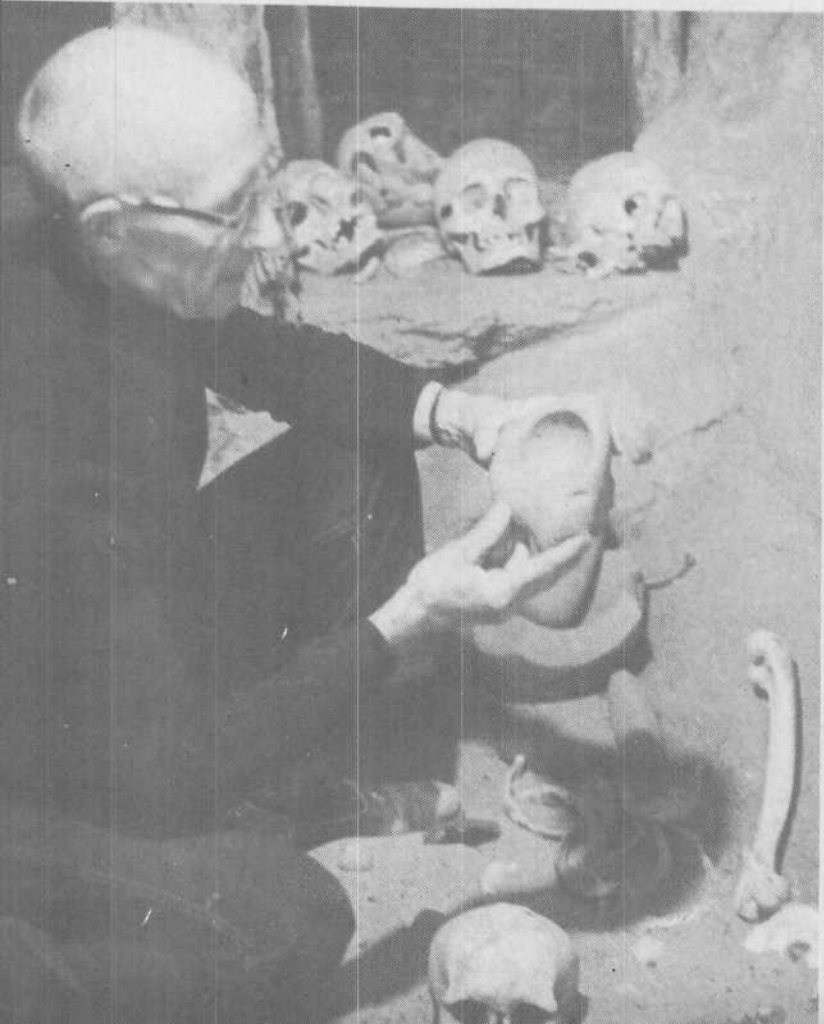
Upper right:
Larry
Schoenberger
[left] and
Harold Pratt
with a portion of
the Kachina Doll
collection.

Lower right:
Mrs. Grace
Oliver, former
director-curator,
displays part of
a collection of
Indian
cradleboards
at the Museum.

*All photos
by Joe Kraus.*



Inside the unique structure are several works of art by the late H. Arden Edwards.



Larry Schoenberger looks over collection of artifacts from a San Nicholas Island multiple burial. The collection is included in the Antelope Valley Indian Museum.

mecca for artists and those doing research in anthropology. And it is probably this allure that prompts others to come and to work at the museum without a salary.

The longest to stay and one of the most dedicated is Larry Schoenberger. Upon his retirement he walked into the place, fell in love with the work there and never left. That was 19 years ago. For many years he served as affairs co-ordinator at the museum and is every bit as interested as his first awe-struck day.

The museum, however, has never been without problems. In its infancy, the structurally unsound building had to be completely rebuilt. There was no road to the facility. And no sooner was a road built and the museum completely rebuilt, than World War II broke out, interrupting things for a time. The visitors during the war were mostly military personnel who arrived from nearby bases in buses and trucks.

After the war the civilian population discovered the museum. And so did schools, as far as 100 miles distant. With California history a part of the curriculum, the museum became a favorite location for field trips, averaging two busloads a day.

In 1964, with the death of Mrs. Oliver's husband, worsening health conditions for Mrs. Oliver herself and spiraling upkeep costs, the museum was closed. But pressure from the community and educational institutions became fairly intense in the following years and the museum was reopened in 1967.

Ten years later, in the summer of 1977, the museum was closed again. This time, because of Mrs. Oliver's continued bad health, the museum would not be reopened until a suitable individual or agency was obtained to take over ownership and operation of the facility.

To simply bequest the museum to a relative, in the event of Mrs. Oliver's death, would be impossible due to the high cost of inheritance taxes.

After the American Association of University Women got involved, a great deal of public support was generated and the California State Parks and Recreation Department became interested. The department sent a team out to investigate. The Native American Council also came. After both unanimously endorsed the idea of state ownership, California

State Parks Director Russell Cahill came out personally for a visit.

Cahill said, in late September 1977, that the site was ideally suited for a priority project of his — the establishment of native American sites throughout the state. These sites, he said, would not only include exhibits of ancient Indian culture, but display, through native Americans working at each site, the crafts and way of life of the Indian today.

Cahill said he was extremely impressed with the locale of the museum, situated at the foot of picturesque buttes, and believed it would be a valuable addition to the parks system.

And that's just what happened. A bill to turn the facility and grounds into a state park successfully passed both houses of the California Legislature, and was later signed by the Governor. Originally, reopening was not scheduled until January 1981. It is now expected, however, that John King, Chairman of the Native American Council, will head a non-profit group that will have the museum open to the public by late September. □

*California State
Parks Director
Russell Cahill
inspects Indian
basket collection
with friend of
the Museum,
Mrs. Beryl
Amspoker.*



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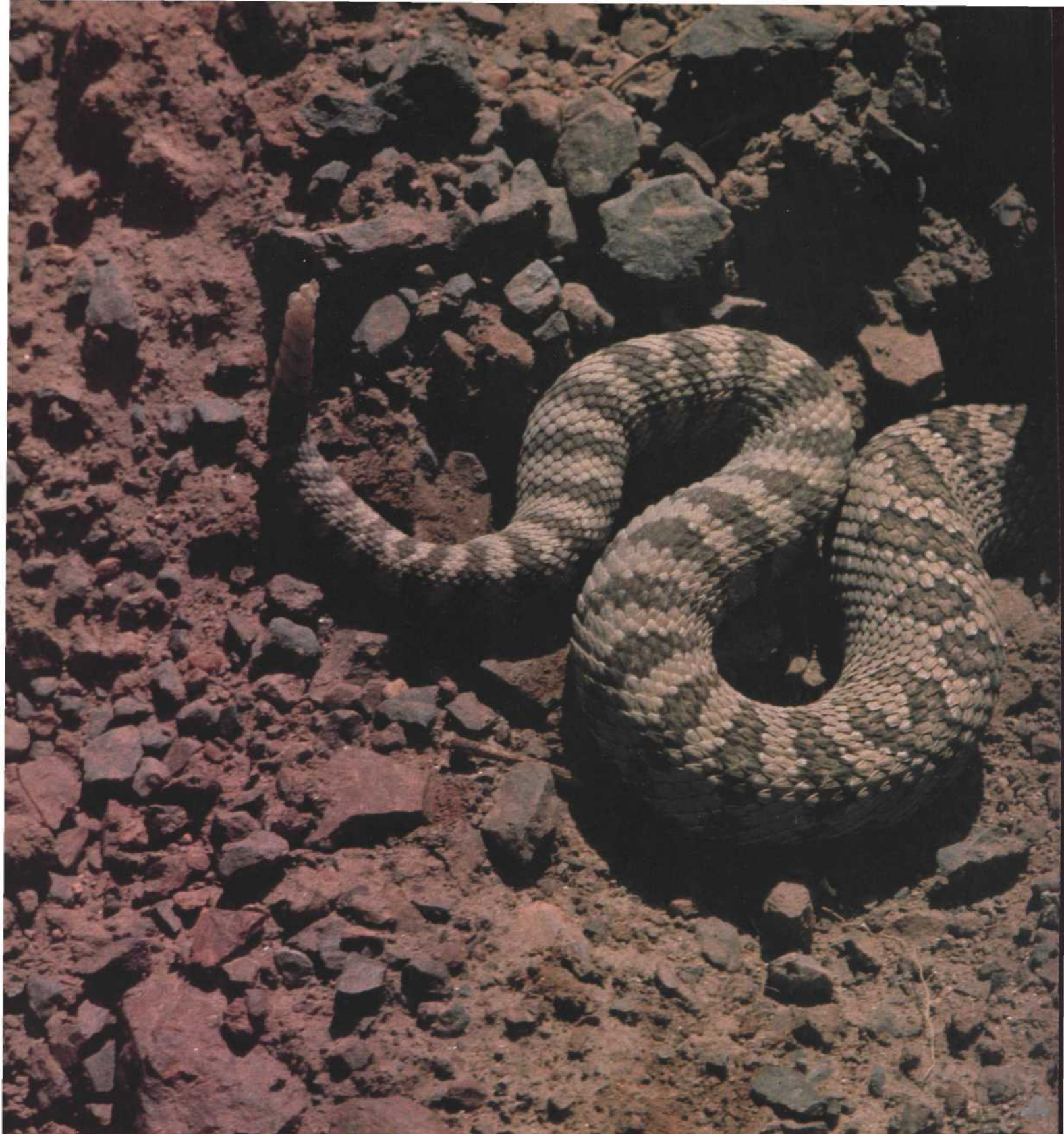
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A FIRST-CLASS desert snake, the Mojave rattler—a fellow who thrives in the heat-ridden land of the yucca, cactus and Joshua tree, or with equal aplomb goes about his business amid creosote bushes and mesquite on the sun-scorched flatlands. Nor does he care if his particular stamping ground lies at sea level or some 6,500 feet up, as long

as it is open country with thin desert cover. The Southwest being what it is, many a stretch in Arizona, southern Nevada, eastern California, southwest New Mexico and eastern Texas—therefore suits him just fine.

Big, tough and truculent, the Mojave is one of the handsomest of rattlers—all two to four feet of him, his dark brown

diamond patterns with their light borders standing out well against the olive green or yellowish body color. His spade-shaped head is marked with a dark streak bordered in white that runs from his eye toward his mouth corner and his tail, just before the sound effects department, is banded in dark and light rings.

As is true of all rattlers, the Mojave is



MOJAVE RATTLER

by K. L. BOYNTON

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breathing. It is especially dangerous since, as herpetologists C. E. Shaw and S. Campbell reported, there is no known antitoxin.

Actually the venom apparatus of a rattlesnake is only secondarily for defense, its primary purpose being a means of capturing food. The heavy- and stout-bodied rattler is no racer built for speedy chase, no coil-squeezing constrictor. He depends on his poison to subdue and kill recalcitrant prey. Hunting, he moves slowly over the ground, checking into all likely holes and under bushes, tongue flicking, picking up chemical and scent traces. Also working for him as he goes along is a special built-in heat receptor system sensitive to the body heat of warm-blooded prey. This remarkable infra-red radiation detector is located in a pit on either side of the snake's head between the eye and nostril. At the bottom of each pit is a membrane packed with heat receptor cells and laced with nerve endings. These transmit exact information on prey location to the brain for action. The snake strikes, his aim guided by these pits with their overlapping fields of reception. The hit—even in pitch darkness—is deadly accurate.

The Mojave dines on kangaroo rats, pocket mice, ground squirrels, stuffing himself literally on prey bigger in diameter than his head. This is no small gastronomic feat, and it is made possible by his remarkable head architecture. It starts with that extra big mouth which,

*Mojave
Rattler
on the
alert.
Photo by
George
Service,
Palm
Desert,
California.*

no character to fool with. Herpetologist L. M. Klauber, a kindly man always inclined to give the other fellow the benefit of the doubt, was only able to say that the Mojave was more peaceful than the big western diamond back *Crotalus atrox* which it resembles. This turns out to be faint praise, since cousin *atrox* himself was awarded the 2nd Prize for Bad Dis-

positions. The Grand Prize Blue Ribbon went to the big eastern diamond back for the Rottenest Disposition of All.

Born with a full complement of fang and poison, fresh out Mojave youngsters are quick to coil and strike. Their clan's particular brand of venom is of a neurotoxic variety which quickly hits nerve centers controlling heart action and

extending far back beyond his eyes, makes a very wide opening. Then, the lower jaw, which is made in two parts, is joined in front by a very elastic ligament. The jaw is further hung loosely onto his skull by a chain of bones. Thus it can spread out sidewise easily and make the big mouth opening even larger. With a gape like this, the snake can get outsized prey into his mouth, but how can he breathe with his face wadded so full? Nature thought of this, too, it seems, for the opening to the windpipe is pushed far forward between the halves of the lower jaw. It therefore lies well under the prey and is safely in position to receive incoming air. Nor was the need to protect the brain against pressure from such a big mouthful forgotten, certain skull bones being equipped with special flanges designed to do just this job.

So far, so good. But how about actually getting such an enormous dinner aboard all the rest of the way?

Again snake architecture makes it possible, for there is no breast bone to add unwanted stiffening, and the heart and internal organs are elongated and located out of the way of the food route to the stomach. All in all, there's plenty of room inside the snake, and tucks in the skin between the scales can be let out for outside expansion. The Mojave can therefore proceed with the business of swallowing, snake style: the prey, gripped securely by needle-like jaw teeth and fangs, if necessary, is simply hauled slowly down the hatch by the two parts of the lower jaw and those of the upper working independently and in rotation in a ratchet-like action. A snake swallowing large prey, as herpetologists K. P.

Schmidt and D. Davis succinctly put it, "crawls over it."

Favoring rodent prey as he does, and since these bucktoothed desert citizens do their shopping for seeds under cover of darkness, the Mojave must of necessity do much of his hunting at night. Indeed, nighttime may be the only time the snake can operate for long during the heat of summer, for any snake caught out for more than a few minutes in high heat and intense solar radiation is going to be a very dead one shortly.

But spring nights on the desert are a different story. A chilling cold clamps down when darkness comes, and strong cold winds kick the sand into stinging clouds, sending dry vegetation flying. Such conditions are far from ideal for a reptile whose body temperature so closely follows that of his surroundings. It makes hunting extremely difficult, and it would seem that a sensible snake would do his springtime hunting in the day when weather conditions are quite favorable. Yet Klauber reports finding many a doughty Mojave shoving around on the grocery detail in the midst of blowing sand and debris in 17.32C (63 F.) temperature, a full 20 degrees lower than desirable for snake activity. Long adapted to desert life, the Mojave conducts his business when he pleases, and since his tribe has been around a long time and continues to flourish, the system has met with obvious success.

One reason for night work is that when the day lights the desert, the Mojave's ancient enemies are abroad and they're out to get him. Foremost among them is the Roadrunner, a fast-footed, quick-witted bird with a murderous bill, too agile, too quick for a snake to escape unless there's a lucky hole nearby. Cornered, the Mojave coils, eyes watchful, tongue flicking. The Roadrunner, feathers up, launches his attack, feinting, darting, retreating, running around and around the snake, its razzle-dazzle feather coloring a blur of confusion. The snake strikes, hitting only a dropped wing, a feathered shield without substance. The bird is instantly at it again, tireless, jumping here, there, watching for an opening. The Mojave strikes again and again, confused, missing. Tired out at last, he uncoils and tries to flee, and the bird has his opening. A rush, and the stiletto bill drives into the snake's brain.

Not that it always goes that way. So


intent was one Roadrunner, so occupied with his skillful attack on a Mojave, he saw that coyote stalking *him*—just a second too late.

And, as is often the case in Nature, scores have a way of evening out: while the Roadrunners take their toll of Mojaves, particularly of the youngsters, the snakes return the compliment, hunting out and eating Roadrunner young.

Swainson's hawk, the big raptor sailing the desert skies with those telescopic eyes searching the ground, swoops on a crawling Mojave, seizing it right behind the head with one sharp taloned foot. Zooming upward to a good height, the bird lets go, and the good old force of gravity plus the hard desert surface do the rest. Landing once more the hawk dines on the now defunct Mojave, or hauls the carcass home as chow for the nestlings. King snakes are also very bad news for rattlers and they work the desert day and night. Big themselves, they can handle good-sized Mojaves and proceed calmly with the capture and kill in spite of being struck again and again, for they have developed an immunity to the venom.

What with constant danger and killing heat topside, the Mojaves spend considerable time underground during the summer days. A rodent burrow makes a comfortable and cool retreat, and if perchance the householder should be within when the Mojave drops in, luncheon is served, willy-nilly. The humidity of a burrow is higher than outside, important to the snake in water conservation. Mojaves drink in the desert rains, sucking the water off rocks or even from their own backs, but mainly their needed moisture comes from their rodent diet. A kidney set up to permit excretion of urine in the form of a chalk-like substance, is a further saving of water. Since, too, snakes are low geared metabolically, and avoid excessive heat and prolonged exposure to direct sunshine, they do not need extra water for temperature regulation. This, of course, is a big help to desert dwelling forms such as the Mojave.

A dark and safe burrow is a fine place to be when skin shedding time rolls around which occurs several times a year. The growing snake must have a new skin that fits his larger size, and so the transparent outer layer is sloughed off and replaced by a new layer formed



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from underneath. At shedding time his colors become dull, his eyes cloud over as the transparent scales covering them begin to loosen, and he is now at a great disadvantage for he cannot see.

A few days before the actual molting takes place his eyes clear again, but he still has the job ahead of him of getting rid of his old skin. It finally comes loose around his head and must now be worked off, and so the Mojave presses his body against rough rocks or the ground, pushing the skin gradually backwards, turning it inside out as he works. He really crawls out of it little by little, and is at last free. Clad now in a highly transparent new skin, his colors bright, he crawls off, handsomer than ever. Left behind is his old skin wrong side out, to be sure, but complete in every detail except for areas around his mouth and anal region.

The rattlesnake's noise making department is really a series of loose rings of modified skin. When the snake molts, the last scale at the end of the tail proper is held in place by a peculiar bump which sticks it to the new scale being formed. This makes a new button or ring, and is added to the series that make up the rattle. Since a snake may molt several times a year, the number of buttons in the rattle does not, of course, indicate his age, but merely records the number of times he's shed.

The dried horny rings joined together so skillfully for easy movement make up an excellent rattle, but it must be shaken vigorously to produce sound. This calls for some fancy muscle action.

Three pairs of muscles lying along the tail do the shaking. Anatomists L. E. Chadwick and H. Rahn, looking into how this works, saw that first all the muscles on one side of the tail contract nearly simultaneously pulling the rattle that way, then their three partners on the other side contract, pulling the rattle back their way. This is a one shake-cycle. Zoologists J. H. Martin and R. M. Bagby checked further into the relationship between the snake's temperature and the frequency of its rattle. Installing a thermometer inside the snake, and with the ingenious use of a variable frequency mercury arc strobe light directed to the spot on the rattle base where the shaker muscles insert, they were able to record the frequency of the rattle at various body temperatures. It seems that

between 16 C and 32 C (60.8 and 89.6 F) the frequency increases linearly, running from about 2500 to 4500 cycles per minute. Fifty-seven hundred cycles per minute was the highest frequency recorded, at about 40 C (104 F).

Obviously these mighty tail shakers are structurally and metabolically specialized for a high rate of activity as indeed the work of anatomist J. E. Forbes and that of C. T. Kerin showed. But Martin and Bagby, watching a snake buzz continuously for three solid hours, knew that unless the blood supply and oxygen transport systems to the tail shakers were something special, those muscles couldn't work so fast for such a long time. They were right, as their subsequent investigations proved.

Snake specialists point to the rattlesnake as one of the most remarkable engineering jobs that Nature has turned out, a fact which even those who regard these reptiles with considerably less enthusiasm must admit. Certainly the Mojave, with his ability to flourish under difficult desert conditions, is a distinguished and handsome example. □

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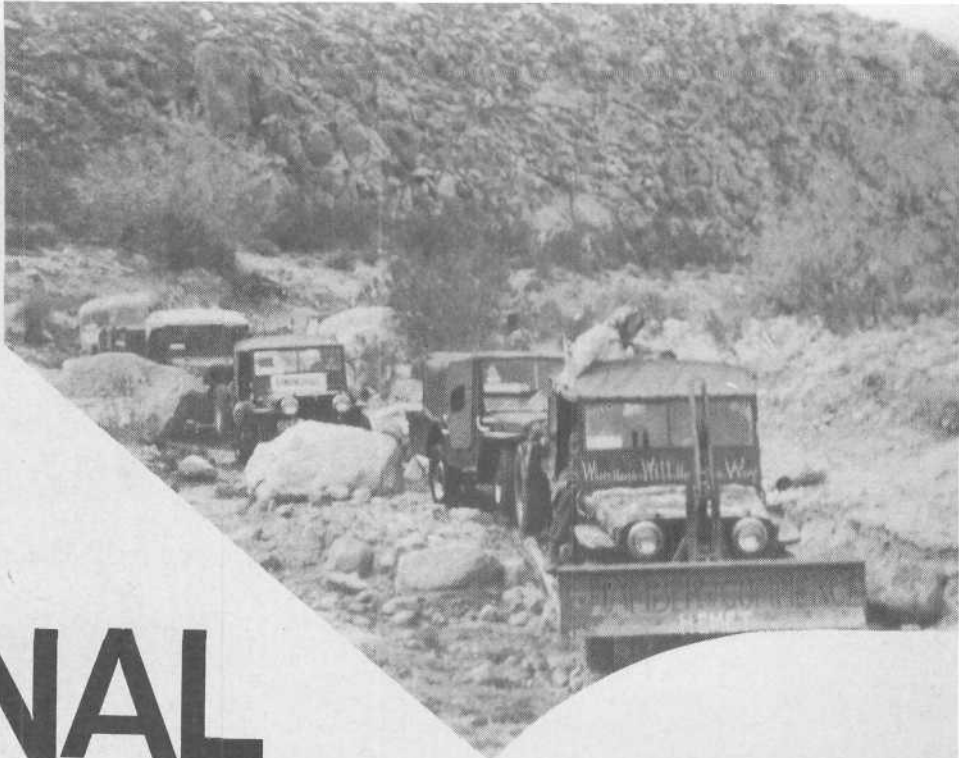
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Clockwise: Even a bulldozer made it through Coyote Canyon during the first Hemet Jeep Cavalcade, mounted on the front end of a civilian-type Jeep, here passing through the mouth of Tule Canyon during the early phases of the run. Beer break was a necessity despite the drizzle when the Borrego Springs Chamber of Commerce was host at Lower Willows near the end of the Cavalcade in the spring of 1949. They made it. First of some 400 off-road pioneer vehicles emerge from Coyote Canyon into Borrego Valley. A long line of four-wheelers, with brand new flathead Jeeps in the van, thread the Middle Willows area of Coyote Canyon. Indio's four-Jeep contingent lines up in front of the old Date Palm newspaper office before joining the Cavalcade. Trail Boss Howard Neher and his crew head up the first rig.



ORIGINAL JEEP CAVALCADE PUT HEMET ON THE MAP

by BILL JENNINGS

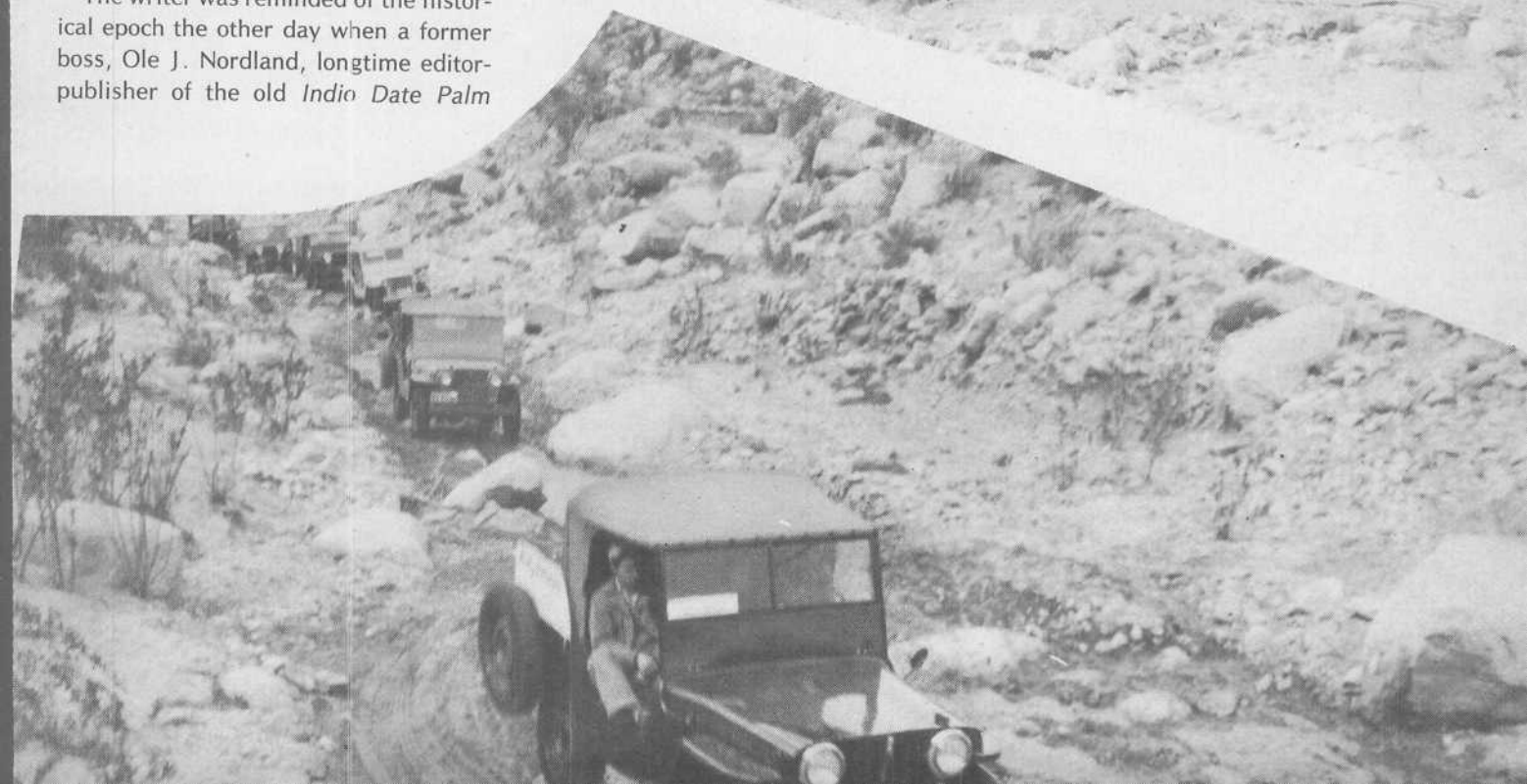




IT'S ANCIENT history now, thanks to changing times and greater concerns about the environment, but California's pioneering off-road run, the Hemet-Borrego Jeep Cavalcade, was quite an innovation in its day.

The first two-day-run down Coyote Canyon, the original 1774-1776 Juan Bautista de Anza California colonization trail, took place in 1949 and more than 400 off-roaders and a passenger list of twice that total turned out for the adventure. In later years the Cavalcade, as the trip became known, was a milk run as compared with others, but at the start it was really something.

The writer was reminded of the historical epoch the other day when a former boss, Ole J. Nordland, longtime editor-publisher of the old *Indio Date Palm*



newspaper, found a collection of postcard-size black and white photo prints in his historic archives and sent them along.

The writer, then a reporter-photographer for the semi-weekly newspaper, made the pictures with an old Kodak postcard-size folding camera as a member of the Indio contingent on the first Cavalcade, an 80-mile jaunt.

Ruth Peters, then secretary-manager of the Hemet Valley Chamber of Commerce, is generally considered the prime mover behind the first Cavalcade. A pioneer resident, second generation, from Indio where her mother was one of the first school teachers, Mrs. Peters could see the historical aspects of such a run, coupled with a more practical purpose, to publicize the needs and feasibility of a paved road connecting Hemet and Borrego Springs by way of Bautista Canyon, the Anza Valley and Coyote Canyon.

Mrs. Peters enlisted the aid of the Willys-Overland Motors, Inc., developer and still builder of the Jeep at that time; the Automobile Club of Southern California, and the Borrego Springs Chamber of Commerce to help put the Cavalcade

together. Target date was April 2, 1949.

The overnight campgrounds were established at Rancho de Anza, A. A. (Doc) Beaty's historic ranch at the mountain-desert terminus of Coyote Canyon. Rupert Costo, a leader of the Mountain Ca-huilla Indians, was a trail guide, along with a distinguished group of Hemet jeepers, members of the first organized four-wheel-drive club in Southern California, E. E. (Bud) Jackson, Harvey Gibbel, A. K. Williamson, all now deceased.

Slim Barnard, then auto writer for the old *Los Angeles Examiner*, headed the list of Southern California reporters as invited guests of the Willys people.

A host of distinguished photographers also made the gravy train as free riders, including Peter Stackpole of *Life Magazine*. The writer was a member of the four-Jeep Coachella Valley contingent headed by Howard Neher, a plumbing contractor and volunteer fire captain in Indio at that time. There was no Indio jeep club as yet.

Riders left the Farmers Fairgrounds at Hemet in a four-mile-long procession, carefully shepherded by the California Highway Patrol the first eight miles to the mouth of Bautista Canyon. After that, chaos! as drivers crowded the leaders, with photographers holding up the whole 400-unit procession at choice photo sites.

Anza and Terwilliger Valley residents poured coffee and served several thousand free doughnuts to the crew at the little Terwilliger Hall near the head of the Turkey Track, the steep grade leading down into Coyote Canyon.

Once in the canyon, the photographers had to snap when they could. You didn't dare try to crowd ahead in the rocky gorge. More than 20 vehicles broke down to greater or lesser degree, but only one or two persons were injured and required the attention of the Auto Club safety patrolmen in the group.

The Army National Guard tried to provide radio surveillance from their group of overloaded military jeeps. The steep walls stopped all that silliness and the military vehicles were among the victims of overheating, flat tires and depressed springs as the route got rougher in the vicinity of Middle Willows.

To make things worse, or better to a hardened jeep, it drizzled most of the way from Bautista Canyon to Lower Willows. In later runnings, it even snowed,

so the trip was a huge success.

Each succeeding year, the chamber endeavored to break the attendance mark set up the first year, but even optimistic counts by real estate salesmen failed to top the record for the first 12 years or so.

One concrete result of the first trip—other than to spur sales of four-wheel-drive vehicles of all makes—was the proliferation of organized off-road groups. The Indio Club, called the Sidewinders, was formed the same year and the biggest San Diego group, then called the San Diego County Ridgerunners, started up the following year. Both of these groups started runs based on the Cavalcade and another immortal event, the Truth or Consequences, New Mexico, jeep derby was spawned in 1954.

The Hemet run continued full bore each spring until the 25th anniversary edition rolled along the original route in the spring of 1973. It was the last, for many reasons.

Not the least was the refusal of the Hemet chamber to continue the tradition in the face of growing resentment of environmentalists, the then current gasoline shortage and the reluctance of state park officials to permit the run through Coyote Canyon.

The writer made the first two, a few in between and was a member of the sponsoring committee for the 25th. About 30 of the original drivers and passengers from 1949 were aboard for the 25th and received special recognition at the campfire from Harry Buschert, also an original, who was president of the California Association of Four-Wheel-Drive Clubs in 1973.

Another problem confronting the sponsors was the drop in popularity for the Cavalcade's original purpose, publicizing the route of the proposed Coyote Canyon road. By 1973, the idea was pretty well moribund, partially due to conservationists' opposition but also for a very practical reason, the state park had acquired all of the canyon's potential right-of-way and wasn't interested in the road.

Since 1973, there has been sporadic interest in reviving the Cavalcade, possibly on a different route, but the combined pressures of increased insurance costs and the lack of time and manpower to put it on have been too much to contend. □

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Mountain Palm Springs: Surprise Canyon

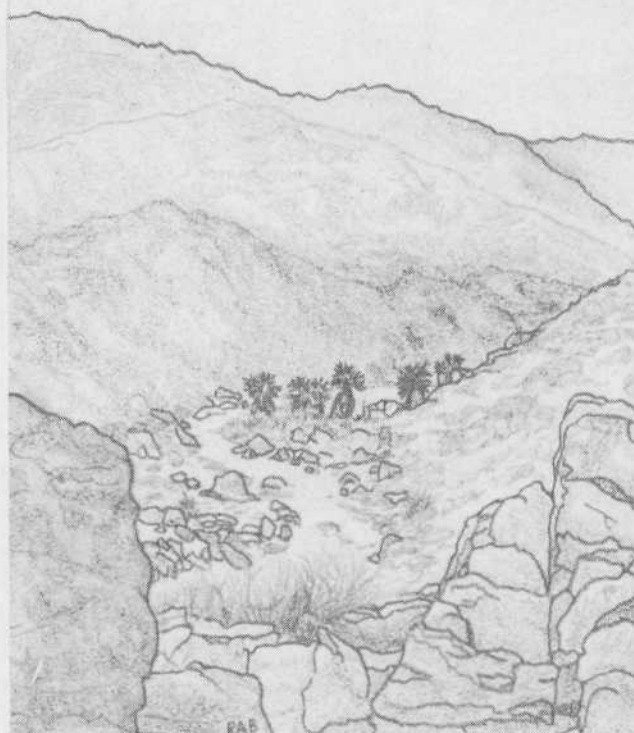
by DICK BLOOMQUIST

NOT WITHOUT reason does Surprise Canyon come by its name. Its very existence is unsuspected until the last moment, for boulders partially, conceal its mouth. Nearly half a mile upstream this inconspicuous little arroyo offers its second treat—an oasis of 37 vigorous palms. Just beyond, the canyon unfolds its final and greatest surprise as it widens into spacious Palm Bowl, home of scores of Washingtonias.

For hikers approaching from Mountain Palm Springs Primitive Camp, an abrupt left turn a little below Mary's Grove leads into Surprise Canyon. A park sign marks the boulder-obscured entrance. After a few feet the shallow ravine opens up into an easy walking route largely free of rocks and vegetation.

It was a hot late-April day on the edge of the long desert summer when I passed through Surprise Canyon. Catkins of yellow flowers hung from the mesquites and a dove called in the distance. I'd been tramping up the wash—more barren and sear than many another desert watercourse—for five or six minutes when the first palms suddenly came into view: eight smallish living trees and one dead one by a tiny spring. Shade and a cooling breeze made this a delightful place in which to pause late on an April morning. Rushes and more mesquites added their verdure to the oasis. During wet years a rivulet flows from the spring (which occupies a hollow in the right

Well-named Surprise Canyon as seen from the north rim.



bank) into a basin several feet below.

Twenty-six trees, both young and old, grow in the main cluster several paces farther upstream; an abandoned oriole nest still dangled from one of the Washingtonias. Except for three fire-marked

Within sight of the main group stands a third and final clutch of three adult trees. It was here, on a previous autumn visit when the palm fruit was ripe, that the canyon lived up to its name in still another way. As I was nearing the trees, a coyote and I spotted each other at the same moment. *El Coyote*—no more than 25 feet away—instantly abandoned his meal of fallen palm berries, sped up the steep slope, where he was joined by his mate, and together they vanished over the rimrock. By eating the fruit and later voiding the undigested seeds elsewhere, coyotes have considerably extended the fan palm's range. This resourceful "wild dog of the desert" eats virtually everything, in fact, from wild fruit to rabbits, rodents, birds, snakes, lizards and insects.

From the last Washingtonias in Surprise Canyon, some of the treetops in Palm Bowl poke into view. It's only a few steps now to where Surprise ends and the beautiful Bowl begins, its far side liberally fringed with palm trees. An Indian trail—the other end of the shard-littered pathway we encountered in Indian Valley earlier in this series—heads over a saddle along the right side of the amphitheater. Our route, however, continues straight ahead to the stately oasis of Palm Bowl. □

Mountain Palm Springs: Surprise Canyon Log

0.0 Junction of San Diego County Road S2 and good dirt road to Mountain Palm Springs Primitive Camp in southern part of Anza-Borrego Desert State Park. This junction is one mile south of turnoff to Indian Gorge and Valley. Turn right and drive to primitive camp.

0.6 Dirt road ends at primitive camp at base of Tierra Blanca Mountains. Hike up the arroyo entering campground from the right toward Mary's Grove, which is visible from end of road. After a quarter of a mile or so, Surprise Canyon comes in on left; confluence is a very short distance below Mary's Grove. Canyon runs westward for three-quarters of a mile to Palm Bowl. Total hiking distance from campground to Surprise Canyon palms approximately two-thirds of a mile; elevation at oasis about 960 feet.

veterans, all the palms here and elsewhere in Surprise Canyon show off ground-length fronds. Nearby I saw brittlebush, desert holly, catsclaw and alkali goldenbush.

What's Cooking on the Desert?

by STELLA HUGHES

Pickles!

PICKLES TURN up in the darndest places! No, not just in our favorite hamburgers or potato salad, but in every country in the world. There's hot pickled peppers in the South American countries; little bitty finger-sized ones of Northern China; England's mustard pickle; sweet gherkins from France; Jewish kosher pickles; Sefgurken chunks from Germany and Dutch dill pickles from Holland.

It's not just pickled cucumbers either; it's pickled almost-everything. There's artichoke hearts, onions, olives and watermelon rind; every kind of vegetable grown, as well as fruits, meats and nuts. Have you ever eaten homemade pickled crab apples or spiced peaches? If the answer is no, you've really missed something!

Besides pickles, there's relishes; sweet, sour and peppery. There's chutneys, chow-chows, sauces, marinades and catsups. Anything that uses vinegar is usually called "pickling," and preserving by using salt is called "brining." Dilled cucumbers and sauerkraut are brined.

During pioneering days, vinegar and salt were used for preserving foods as well as drying and dehydrating. Today, when we have fresh or frozen vegetables on our table all through the year, surprisingly enough, pickles are more popular than ever before. Fast food companies use billions of pickles each year, while nine out of ten American homes serve some kind of pickles at least once a week.

Each time food prices start zooming to the top of the charts, backyard gardening becomes more popular. Then it's time the thrifty homemaker starts thinking of pickling to help cut food costs.

You may have several purposes in mind when you take up pickling. One is to use up garden produce you've grown yourself, or to take advantage of surpluses during the peak growing season, and therefore cheaper vegetables at your supermarket. If nothing else, it's a satisfying hobby, and not only one you and your family can enjoy, but jars of fancy pickles and relishes make nice gifts to friends and relatives.

Before you plunge into pickling art, there are a few ground rules to be observed. The kind of vinegar used for pickling is very important. Distilled white vinegar is best for making pickles,

whereas cider vinegar can be used for spiced or pickled fruits. Just remember vinegar is both a preservative and a flavor. When you buy vinegar for pickling check the label for percentage of acidity. Vinegar with five to six percent acidity is needed to preserve pickled fruits and vegetables, especially after they have been somewhat diluted by natural juices and liquids in the foods themselves.

Vinegar is corrosive, so never use brass, copper, zinc, iron or tin utensils for pickling. Galvanized tinware is extremely dangerous to use. (Many water buckets are galvanized.) Use granite-ware or stainless steel when cooking, and glass or stoneware when brining.

Use pure granulated salt, as ordinary table salt contains chemicals to prevent lumping, and interferes with the pickling process. Iodized table salt will darken pickles.

Chow-Chow

Chow-chow, often called piccalilli, is a mixed pickle relish, and such a variety of combinations and spices can be used, it brings out creativeness in almost everyone. I make one type of chow-chow in late September I call End-of-the-garden chow-chow. I seldom measure anything when making this recipe, and seldom do I make less than a huge dishpan full, but for the sake of those that like things spelled out for them, here's the recipe.

- 1 head cabbage
- 6 or 8 onions
- Bell or sweet peppers (any amount you wish, or none at all)
- 2 or 3 green chilies (if hot maybe only 1 is enough)
- 3 pounds green tomatoes (some may be ripe if you wish)
- 2 or 3 carrots (this adds color)
- 3 cups sugar
- ½ cup pickling salt
- 2½ quarts white vinegar
- 2 teaspoons tumeric
- 2 teaspoons ground ginger
- 2 tablespoons mustard seed
- 1 teaspoon ground cloves

Grind vegetables in a food chopper or do it by hand; mix in salt. Let stand overnight. Drain well. In enamel kettle add vinegar, sugar and spices. Bring to boil and simmer for ten minutes. Add chopped vegetables and simmer another ten minutes. Continue simmering while packing into hot sterilized jars. Fill to

within one-quarter inch of top. Be sure liquid covers vegetables. Do one jar at a time, and seal at once.

Pickled Peaches

Select small, firm (not overripe) cling peaches. Wash fruit, dip in boiling water until peelings slip off easily, then plunge into cold water. To prevent peaches from darkening during preparation, put two tablespoons each of salt and vinegar into each gallon water.

- 3 quarts sugar
- 2 quarts vinegar
- 8 pieces stick cinnamon
- 2 tablespoons whole cloves
- 16 pounds peaches

Combine sugar, vinegar, stick cinnamon and cloves; bring to boil and let simmer for about 20 minutes. Drop peaches into boiling syrup and cook for five minutes. Use only enough peaches for two or three quarts at a time. Pack hot into sterilized jars. Add one piece of stick cinnamon and two or three cloves to each jar. Cover peaches with boiling syrup to one-half inch of top. Seal. Process in boiling water for 20 minutes (time starts after water returns to boiling). Remove jars and complete seals if necessary. Set jar out of drafts to cool, on rack or towel.

Not all varieties of cucumbers are suitable for making pickles. Those grown for table use or salads are called "slicers." Those too large or overripe, or tough-skinned are not suitable for pickling. Special varieties are grown for commercial pickling and they are thin-skinned and uniform in size. If you're pickling your own homegrown cucumbers, choose the smaller sizes for bread and butter pickles. Certainly no larger than a small banana. Those that have turned slightly yellow from sunburn, or any that are hollow should be discarded.

Bread and Butter Pickles

- 30 to 35 cucumbers not over 4 inches long
 - 8 medium onions
 - 1 or 2 bell peppers (sweet)
 - 1 red sweet pepper (if desired)
 - ½ cup pickling salt
 - 5 cups sugar
 - 1½ teaspoons turmeric
 - ½ teaspoon ground cloves
 - 2 teaspoons mustard seed
 - 2 teaspoons celery seed
 - 5 cups white vinegar
- Slice cucumbers and onions crosswise,



Tiny, whole carrots pickled with onions and green chilies.

add salt, cover with plenty of cracked ice and let stand three hours, stirring occasionally. This makes vegetables crisp, so don't cheat on time or ice. Drain. Combine rest of ingredients and pour over vegetables. Bring to a boil and pack into hot, sterilized jars; seal. Do not overcook as it makes cucumbers limp. Transfer pickles quickly from kettle to jars and let nothing interfere at this stage.

If you wish detailed and expert advice on pickling at home, write for free bulletins from your nearest University Cooperative Extension Service. Or to the U. S. Dept. of Agriculture, Washington, D.C., for free publication, "Making Pickles and Relishes at Home."

Pickled fruits are often called "branded" or "spiced." One uses brandy and the other vinegar. Any kind of fruit can be pickled, even bananas.

Branded Peaches

- 8 quarts peaches
- sugar
- 4 cups brandy

Select firm, unblemished peaches, peel and stone. Weigh them, and use half their weight in sugar. In a large crock place a layer of peaches (quartered or in halves), then a layer of sugar, pouring some of the brandy over each layer. Continue until the ingredients are used. Cover crock with a cloth and place a lid on top. Store in a cool place and let stand for two or three months before using. Be careful of ants getting into crock.

How to Preserve a Husband

Be careful in your selection. Do not choose too young. When selected, give your entire thoughts to preparation for domestic use. Some wives insist upon keeping them in a pickle, others are constantly getting them in hot water. This may make them sour, tough, and sometimes bitter; even poor varieties may be made sweet, tender and good, by garnishing them with patience, well sweetened with love and seasoned with kisses. Wrap them in a mantle of charity. Keep warm with a steady fire of domestic devotion and serve with peaches and cream. Thus prepared, they will keep for years. □

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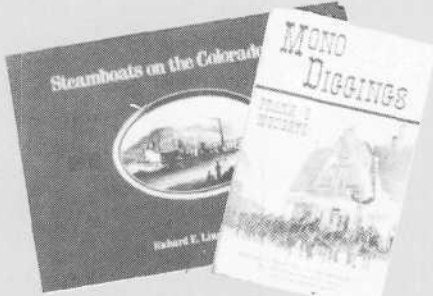
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WILDLIFE OF THE SOUTHWEST DESERTS by Jim Cornett. Written for the layman and serious students alike, this excellent book on all the common animals of the Southwest deserts. A must for desert explorers, it presents a brief life history of everything from ants to burros. Paperback, 80 pages, illustrated, \$3.95.

CALIFORNIA-NEVADA GHOST TOWN ATLAS and SOUTHWESTERN GHOST TOWN ATLAS by Robert Neil Johnson. These atlases are excellent do-it-yourself guides to lead you back to scenes and places of the early West. Some photos and many detailed maps with legends and bright, detailed descriptions of what you will see; also mileage and highway designations. Heavy paperback, each contains 48 pages, each \$2.00.

JEEP TRAILS TO COLORADO GHOST TOWNS by Robert L. Brown. An illustrated, detailed, informal history of life in the mining camps deep in the almost inaccessible mountain fastness of the Colorado Rockies. 58 towns are included as examples of the vigorous struggle for existence in the mining camps of the West. Illustrated, 239 pages, end sheet map, paperback, \$6.95.



THE BAJA FEELING, by Ben Hunter. Not just another turista invasion book about Baja, but an entertaining and informative report on the trials and tribulations of weekending and finally, homebuilding in Baja California, by a charming writer who admits he doesn't know everything. A refreshing change! Hardcover, 334 pages, photographs and drawings, \$8.95.

DEATH VALLEY: Geology, Ecology, Archaeology, by Charles B. Hunt. Death Valley has long been a place of fascination for people the world over, and much as been written about it. Now, however, all aspects of this famous (or infamous) desert have been brought together in this book. Lavishly illustrated with 163 photos and line drawings, 234 pages. Paperback, \$6.95; hardcover, \$14.95.

THE BLACK ROCK DESERT, by Sessions S. Wheeler. One of Nevada's least-known and most scenic historical desert areas is described by the state's leading professional historian and author. Black Rock is part of the huge Great Desert Basin and was the setting for Indian battles and several tragic incidents during the 1849 California Gold Rush. Paperback, 186 pages, many black and white photographs, sketches and maps, \$4.95.

SPEAKING OF INDIANS by Bernice Johnston. An authority on the Indians of the Southwest, the author has presented a concise, well-written book on the customs, history, crafts, ceremonies and what the American Indian has contributed to the white man's civilization. A MUST for both students and travelers touring the Indian Country. Heavy paperback, illus., \$2.95.

THE SEA OF CORTEZ, The Gulf of California, Baja, and Mexico's Mainland Coast by Ray Cannon and the Sunset Editors. A rich and colorful text acquaints the traveler and outdoorsman with the history, people, climate and travel opportunities of this exciting wonderland. Each of the 12 regions that make up the Gulf of California is covered in a separate chapter with a special section on how to catch "Cortez fishes." Large format, hardcover, 272 pages, \$14.95.

STEAMBOATS ON THE COLORADO RIVER, 1852-1916, by Richard E. Lingenfelter. The first comprehensive, illustrated history of steamboating on the entire length of the Colorado River and its principal tributaries. Covering nearly a century of western history, this book fills a real need and joins the gaps in the saga of marine navigation in the arid desert. Many maps, illustrations and a list of all the river steamers. Paperback, 195 pages, \$9.50.

DEATH VALLEY IN '49, by William Lewis Manly. The newest reprint of a Death Valley classic, written by one of the heroes of its most tragic period, with a new foreword by the superintendent of the Death Valley National Monument. Paperback, 498 pages, \$8.95.

NEVADA PLACE NAMES by Helen S. Carlson. The sources of names can be amusing or tragic, whimsical or practical. In any case, the reader will find this book good reading as well as an invaluable reference tool. Hardcover, 282 pages, \$15.00.

ARIZONA PLACE NAMES by Will C. Barnes, Revised and enlarged by Byrd H. Granger. Excellent reference book with maps, Biographical Information and Index. Large format, hardcover, 519 pages, \$11.50.

LAND OF POCO TIEMPO by Charles F. Lummis. A reprint of the famous writer and historian of his adventures among the Indians of New Mexico. Lummis was one of the foremost writers of the West. Paperback, 236 pages, \$3.95.

CALIFORNIA DESERT WILDFLOWERS by Philip A. Munz. Illustrated with both line drawings and beautiful color photos, and descriptive text by one of the desert's finest botanists. Paperback, \$3.95.

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FIELD GUIDE TO ANIMAL TRACKS by Olaus J. Murie [Peterson Field Guide Series]. This comprehensive book helps you recognize and understand the signs of all mammals—wild and domestic—on this continent, as well as those of many birds, reptiles and insects. More than 1000 drawings; individual tracks, different track patterns, animals in their habitats, droppings, gnawed trees—all the types of clues the tracker needs. Strong, durable paperback, \$5.95.

THE CREATIVE OJO BOOK by Diane Thomas. Instructions for making the colorful yarn talismans originally made by Pueblo and Mexican Indians. Included are directions for wall-hung ojos, necklaces, mobiles and gift-wraps tie-ons. Well illustrated with 4-color photographs, 52 pages, paperback, \$2.95.

DESERT EDITOR by J. Wilson McKenney. This is the story of Randall Henderson, founder of DESERT Magazine, who fulfilled a dream and who greatly enriched the lives of the people who love the West. Hardcover, illustrated with 188 pages, \$7.95.

RAILROADS OF ARIZONA VOL. I by David F. Myrick. More than 30 railroads of Southern Arizona are presented, together with 542 nostalgic illustrations, 55 special maps and an Index. A valuable travel guide and a reliable historical reference. Large format, hardcover, 477 pages, \$19.50.

Letters to the Editor

Letters requesting answers must include stamped self-addressed envelope

Paddlewheeler Update . . .

In the book review section of the May issue, reviewing "Steamboats on the Colorado," your reviewer states that there is a paddlewheeler on the river, running "intermittently near Blythe.

This is wrong, there is no paddlewheeler running even intermittently, and the boat you are presumably referring to never did run, except for one shakedown cruise, which was a failure.

There was a diesel- or gas-powered boat built, planned for cruises and excursions. It was poorly planned and built. There was one highly publicized shakedown cruise, but after going down the river, the boat could not make it back up the river under its own power and had to be towed back.

That year, the owners of the boat announced that they would take a party to Martinez Lake on the annual Blythe Boat Cruise, but that passengers would have to plan another way to get back to Blythe, since the boat could not carry passengers back up the river against the current. There were no takers, and there never was another excursion.

The boat was finally sold, after sitting in the marina for a long time, and the last time I saw it, it was docked up north of Parker, Arizona.

I know you like to have all information in the magazine correct, so as not to mislead people.

R. O. REED,
Blythe, California.

More on Rockhouse Valley . . .

I am writing to you as a man of a little more than 88 years, and I wish to say that in your magazine of September, 1978, I read with much interest, and some concern, an article about Rockhouse Valley in the Anza-Borrego Desert State Park.

At the beginning of the article, the author mentions a Nicolas Swartz, who lived in Rockhouse, and then writes that he assumes Nicolas Canyon was named after Mr. Swartz himself.

Farther along in the article, the author mentions that his map indicated that there was only one spring in Rockhouse Valley, and that was Cottonwood Spring, near the rockhouse ruins, and as no news to me, he mentions that the spring was dry.

Then, the author mentions finding the ruins of three rockhouses to the southeast of

the Cottonwood Spring, about 700 yards. This has me guessing, for to me there are rockhouses to the west of Cottonwood Spring. He also writes that there were no cottonwood trees there. This has me wondering if he found some other place other than the one I know about as Cottonwood Spring and is situated so as to make the rockhouse ruins to the southeast of the spring.

Mr. Smith's article also has me wondering from what source he received information concerning a Nicolas Swartz in Rockhouse Valley. As far back as I can remember, I heard old-timers of the area talk about Rockhouse Valley and the old Indian there by the name of Nicolas Guanche. Not one time did I ever hear an old-timer—either Indian or white—mention Nicolas Swartz.

Mr. Smith writes that his map indicates that Cottonwood Spring is the only water in Rockhouse Valley. I am quite sure that if his map had been from the right authority, it would have shown that there is a nice spring of water in Nicolas Canyon, and it would have the same name for the spring. Then again, I am quite sure that the right map would have mentioned water farther east near the foot of Santa Rosa Mountain where there is evidence of Indian habitation in the past. In my book of the Anza-Borrego area, where I wrote about Rockhouse Valley, I made mention of this water and of the remains of two rockhouses with fireplaces, a sizable circular rockwall and of other places where there may have been brush shelters.

The first time I was in Rockhouse Valley was late in the year of 1935, when I went with a saddlehorse and a pack mule. Karl Bennis was with me, and we had our camp in Nicolas Canyon by the water that was running down the canyon from Nicolas Spring. The ruins of the Nicolas Rockhouse were on the canyon rim just above us to the east.

In 1965 I loaned to "Art" Guanche, for 99 years, the last of my pack mules I had when working in the High Sierra of California as a hunter and trapper for the California Department of Fish and Game, and trapping for mountain lions. Art Guanche is a grandson of Nicolas Guanche, and he was improving the water at this Indian village site for the wildlife of the area.

I never had the opportunity to become acquainted with Nicolas Guanche, but I have played the violin and guitar with his son, Ignacio.

Calistro Torte is one of the Rockhouse Valley Indians who told me the most about Rockhouse Valley, and the Indians who lived there. He told me of his having been born at Hidden Spring to the south of Rockhouse Valley. He also told me which one of the rockhouses near Cottonwood Spring that he and his parents, brothers and sisters lived in, and added that his father, Manuel Torte, was Captain for the Rockhouse Valley Indians.

LESTER REED,
Castle Dale, Utah.

Editor's Note: Mr. Reed is the author of *Old-Time Cattlemen and Other Pioneers of the Anza-Borrego Area*.

Calendar of Events

This column is a public service and there is no charge for listing your event or meeting—so take advantage of the space by sending in your announcement. We must receive the information at least three months prior to the event.

JULY 13-15, "Filer Gem and Mineral Show" in Filer, Idaho. Demonstrations, dealers, exhibits. Free public parking and admission.

JULY 14 & 15, Reno Gem and Mineral Society's Annual "Jackpot of Gems '79" Show. V. & T. Room, Centennial Coliseum, 4590 S. Virginia St., Reno, Nevada.

JULY 20-AUGUST 26, Art-A-Fair Festival, Boy's Club, 1085 Laguna Canyon Road, Laguna, Calif., featuring fine artists and crafts-persons. For information, write to P. O. Box 547, Laguna Beach, Calif. 92652.

AUGUST 25 & 26, 11th Annual Antique Bottle Show & Sale presented by the San Bernardino County Historical Bottle and Collectible Club. Big Bear Lake Convention Center, Big Bear, Calif. Adult donation \$1.00. Information (714) 874-0016.

SEPTEMBER 7-9, The Wasatch Gem Society, Salt Lake City, Utah, in conjunction with its regular show, will host the 1979 Utah Federation of Gem and Mineralogical Societies Annual Show and Convention. Utah National Guard Armory, 5189 South State Street, Murray, Utah.

SEPTEMBER 22 & 23, Harvest of Gems and Minerals, sponsored by the Sequoia Gem and Mineral Society, 1120 Roosevelt Ave., Redwood City, California. Demonstrations, displays, dealers.

OCTOBER 6 & 7, Harvest of Gems, sponsored by the Centinela Valley Gem and Mineral Club, Hawthorne Memorial Center, El Segundo Blvd., and Prairie Ave., Hawthorne, Calif. Dealers, displays, demonstrations, ample free parking.

OCTOBER 13 & 14, Gem and Mineral Show, San Jose "Rock Trails West," annual show of the Campbell Gem and Mineral Guild, Gateway Hall, Santa Clara, Fairgrounds on Tully Rd., Campbell, California.

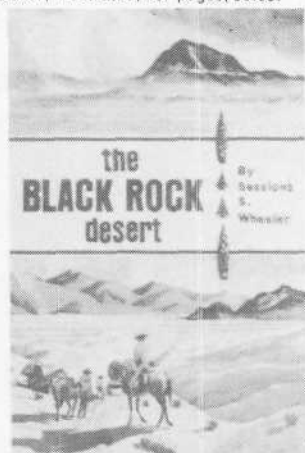
OCTOBER 13-21, Fourth Annual Gem and Mineral & Handmade Hobby Jamboree, Sportsman's Club, 6225 Sunburst, Joshua Tree, California. Dealers, free admission and parking.

GREAT READING From CAXTON PRINTERS

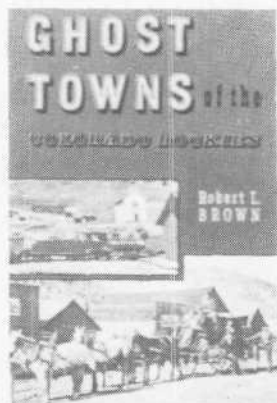
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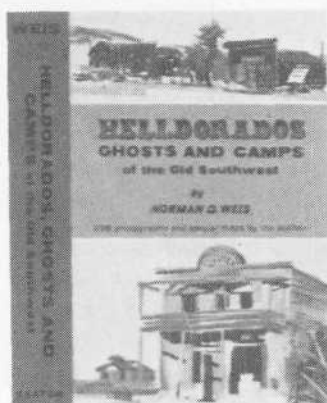
THE OREGON DESERT by E. R. Jackson and R. A. Long. Filled with both facts and anecdotes, this is the only book on the little but fascinating deserts of Oregon. Anyone who reads this book will want to visit the area—or wish they could. Hardcover, illustrated, 407 pages, \$9.95.



THE BLACK ROCK DESERT by Sessions S. Wheeler. One of Nevada's least-known and most scenic historical desert areas is described by the state's leading professional historian and author. Paperback, illus., maps, \$4.95.



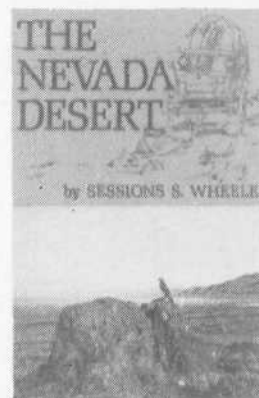
GHOST TOWNS OF THE COLORADO ROCKIES by Robert L. Brown. Written by the author of "Jeep Trails to Colorado Ghost Towns," this book deals with ghost towns accessible by passenger car. Gives directions and maps for finding towns along with historical backgrounds. Hardcover, 401 pages, \$9.95.



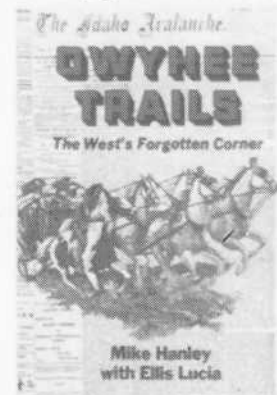
HELLDORADOS, GHOSTS AND CAMPS OF THE OLD SOUTHWEST by Norman D. Wels. The author takes you on a 7,000-mile tour of the Old Southwest, visiting some 67 ghost towns and abandoned mining camps, one never before mentioned in written history. 285 excellent photos. Hardcover, 320 pages, \$9.95.



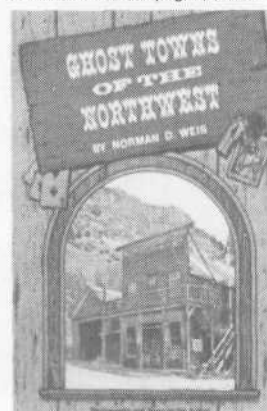
DON HOLM'S BOOK OF FOOD DRYING, PICKLING AND SMOKE CURING by Don and Myrtle Holm. A complete manual for all three basic methods of food processing and preservation without refrigeration or expensive canning equipment. Also contains instructions and plans for building the equipment needed at home. An excellent publication and highly recommended for the homemaker, camp cook or the expedition leader. Paperback, well illustrated, \$4.95.



THE NEVADA DESERT by Sessions S. Wheeler. Provides information on Nevada's state parks, historical monuments, recreational area, and suggestions for safe, comfortable travel in the remote sections of western America. Paperback, illustrated, 168 pages, \$2.95.



OWYHEE TRAILS by Mike Hanley and Ellis Lucia. The authors have teamed to present the boisterous past and intriguing present of the still wild corner of the West sometimes called the I-O-N, where Idaho, Oregon and Nevada come together. Hardcover, 225 pages, \$9.95.



GHOST TOWNS OF THE NORTHWEST by Norman Wels. The ghost-town country of the Pacific Northwest, including trips to many little-known areas, is explored in this first-hand factual and interesting book. Excellent photography, maps. Hardcover, 319 pages, \$9.95.

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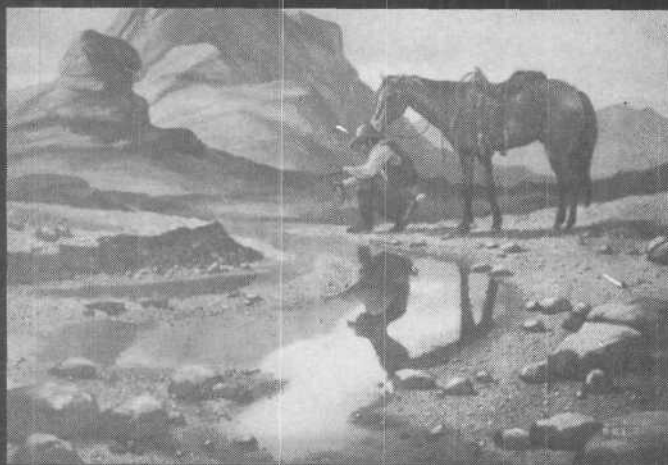
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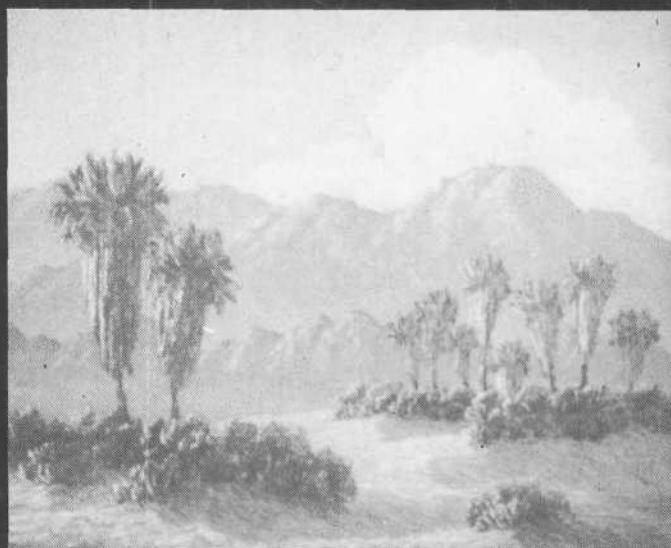
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